

Supplementary Material D

Repository of pictures showing constructed ACS on our dataset

contents

Differences between the ACS constructed by the different algorithm shown on specific examples.

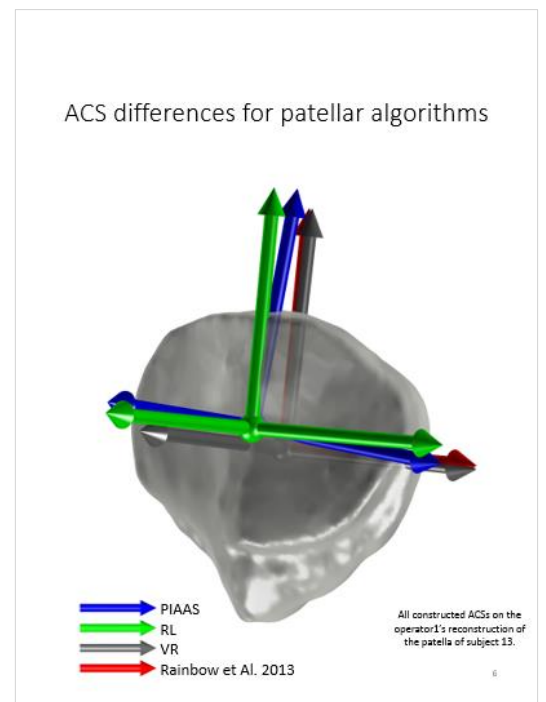
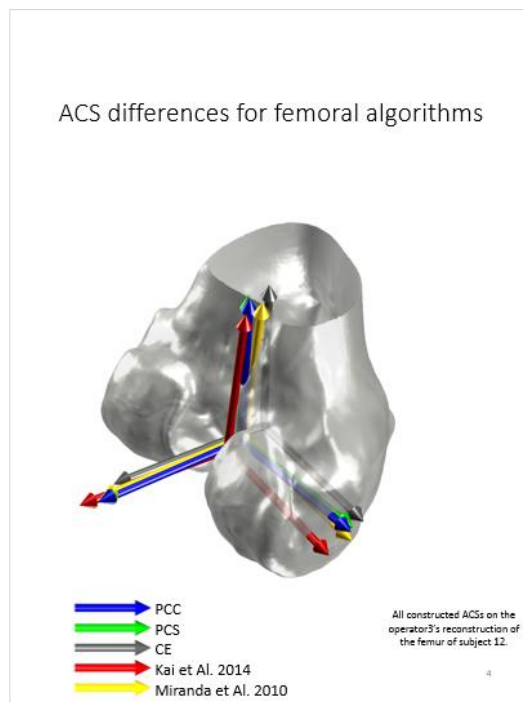
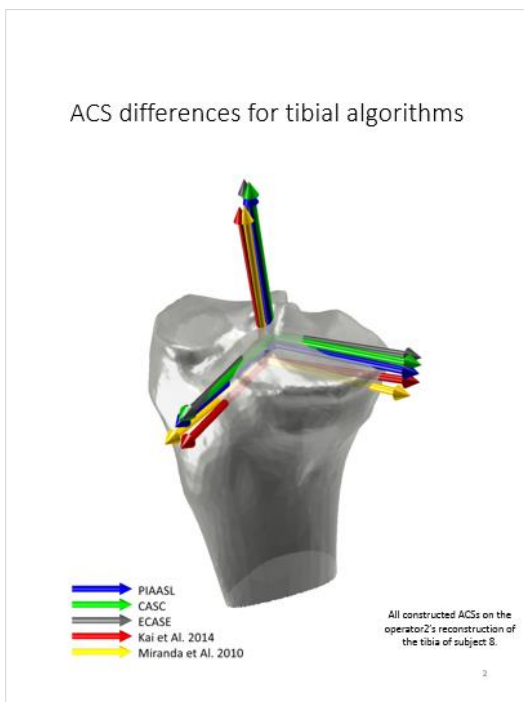
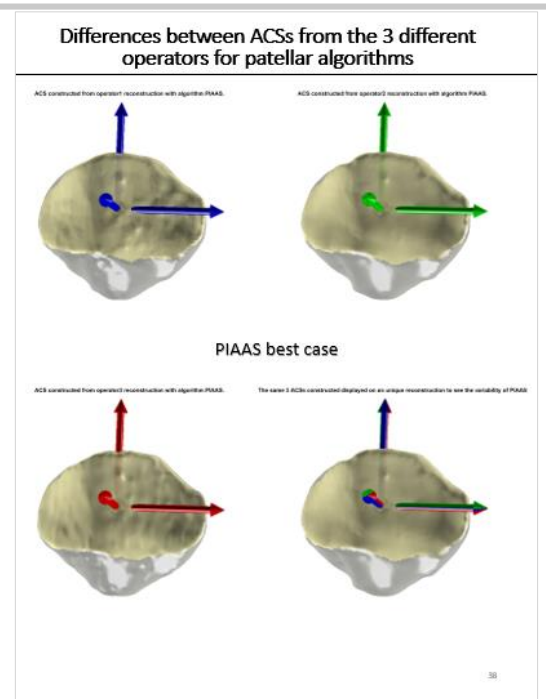
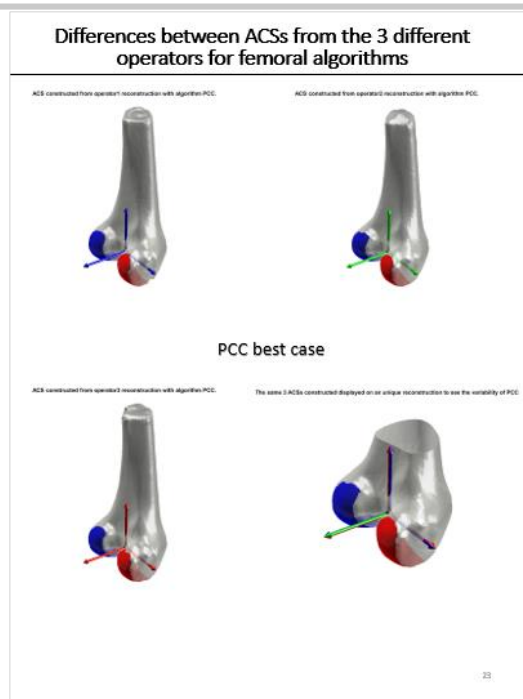
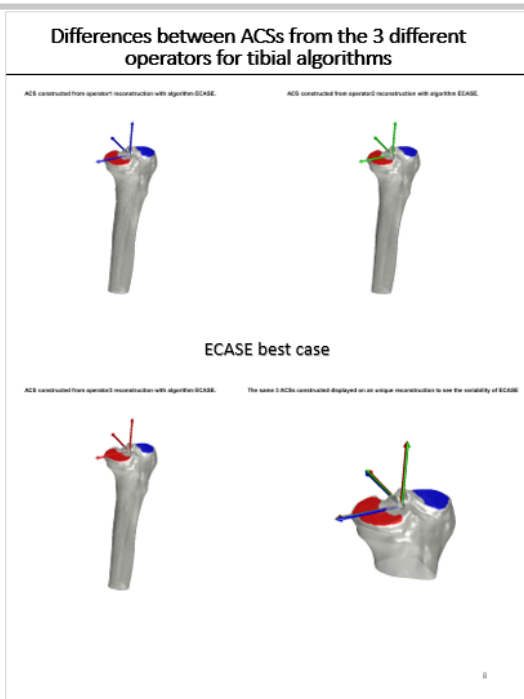
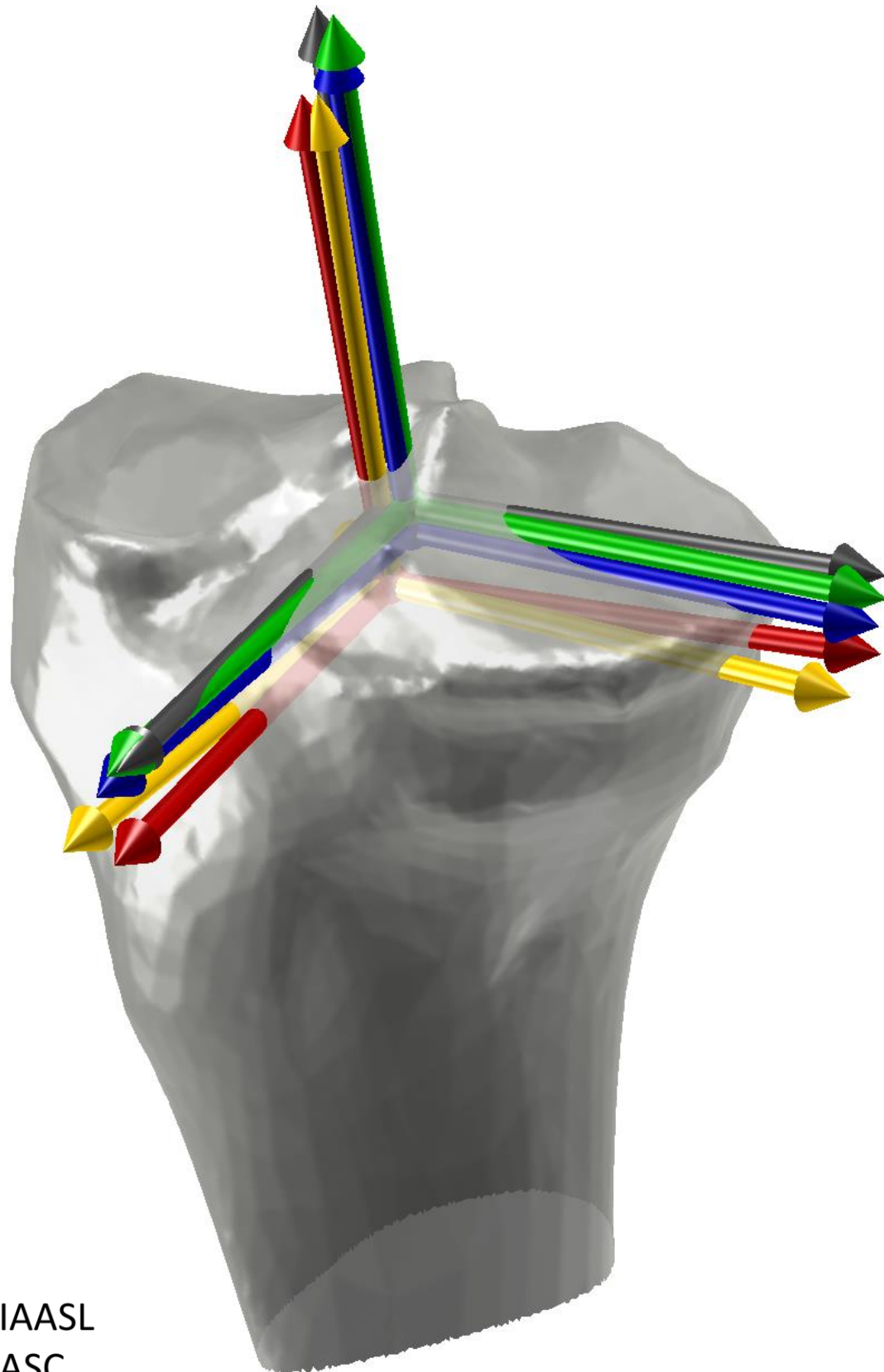


Table of



For each algorithm the ACSs of the subjects displaying the minimal, median and maximal orientation variability (GVA) are shown.

ACS differences for tibial algorithms

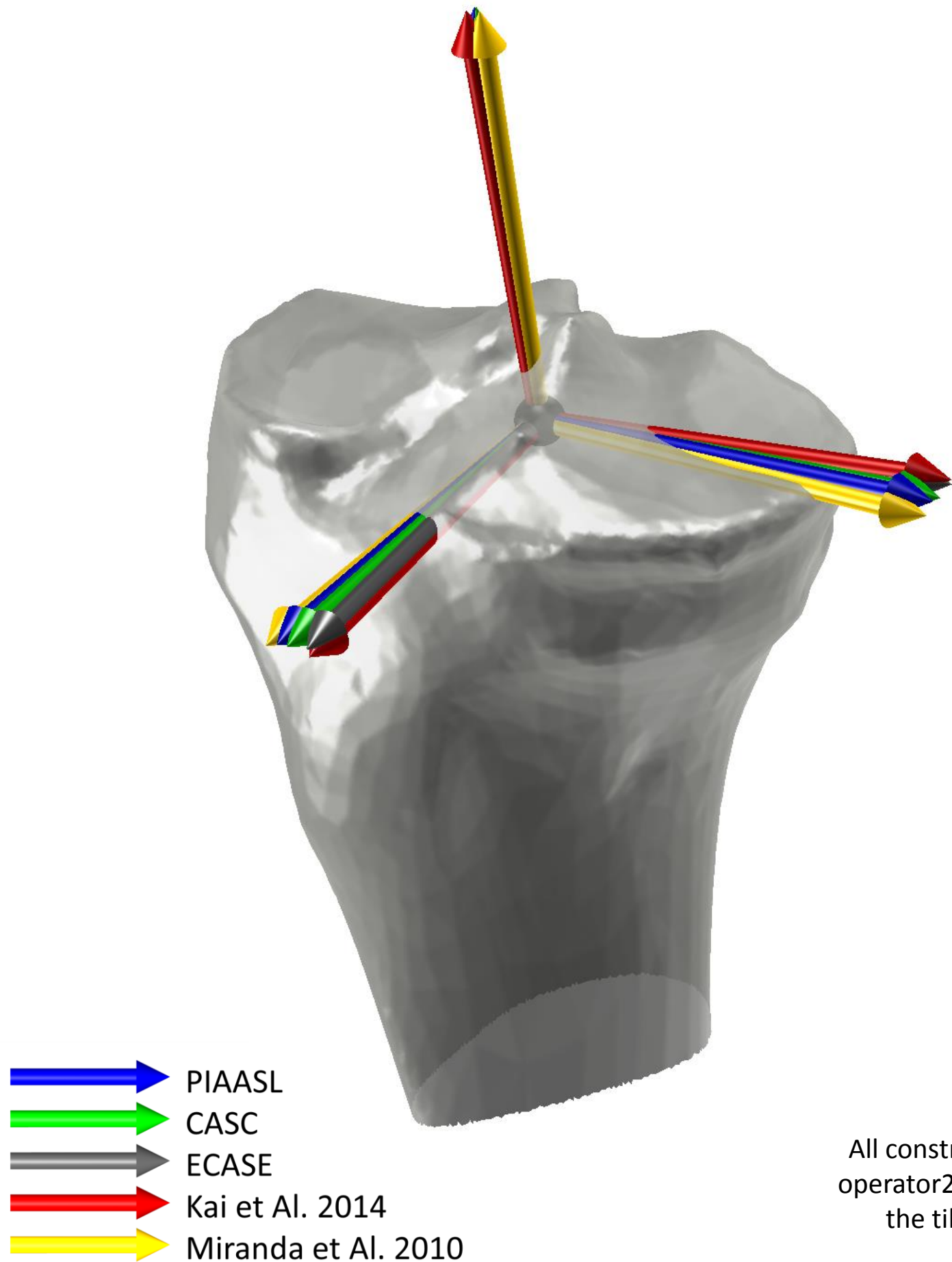


-  PIAASL
-  CASC
-  ECASE
-  Kai et Al. 2014
-  Miranda et Al. 2010

All constructed ACSs on the operator2's reconstruction of the tibia of subject 8.

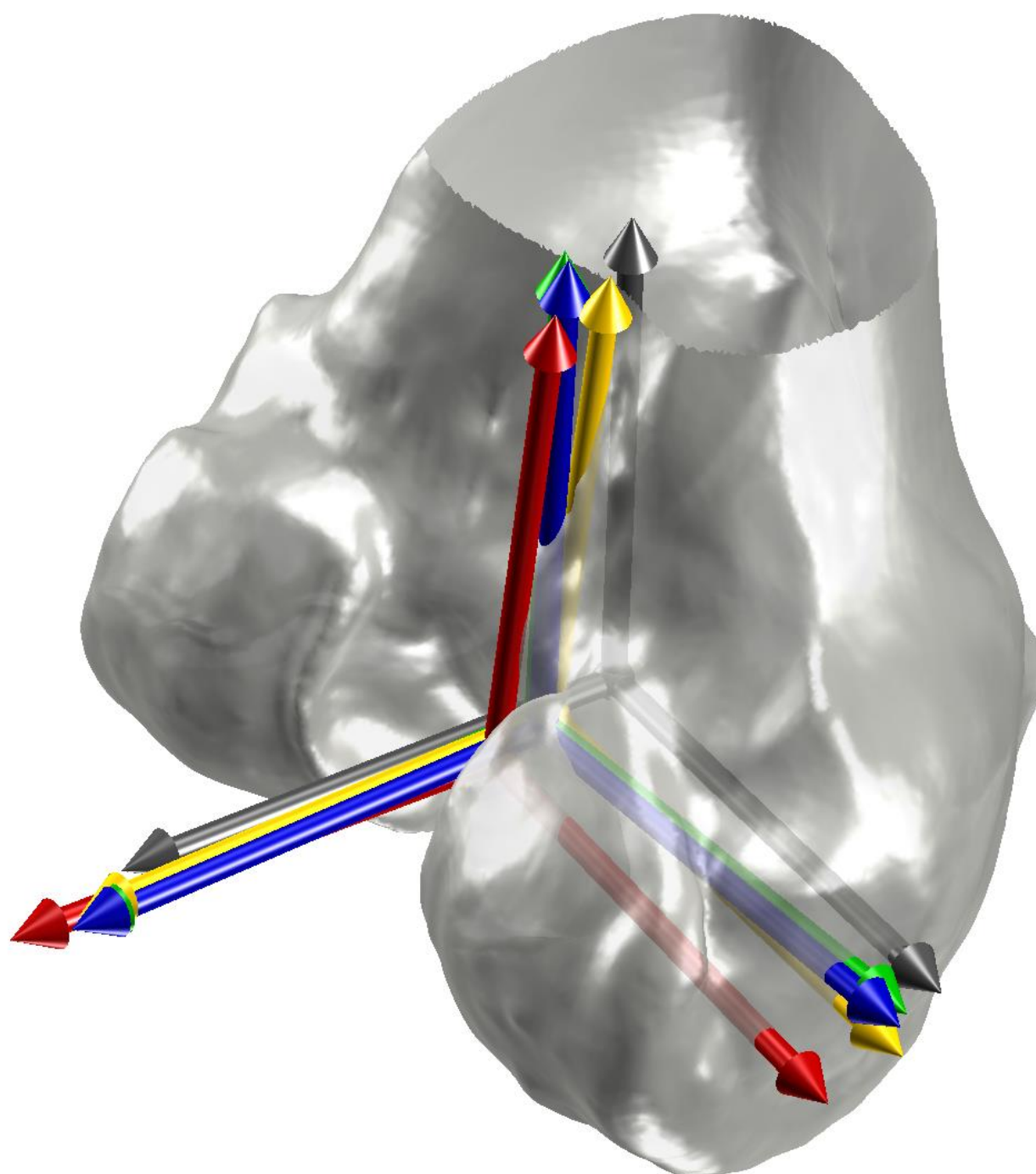
ACS differences for tibial algorithms






All ACS origins were translated to PIAASL ACS origin to facilitate comparison of the ACS orientation differences



All constructed ACSs on the operator2's reconstruction of the tibia of subject 8.

ACS differences for femoral algorithms

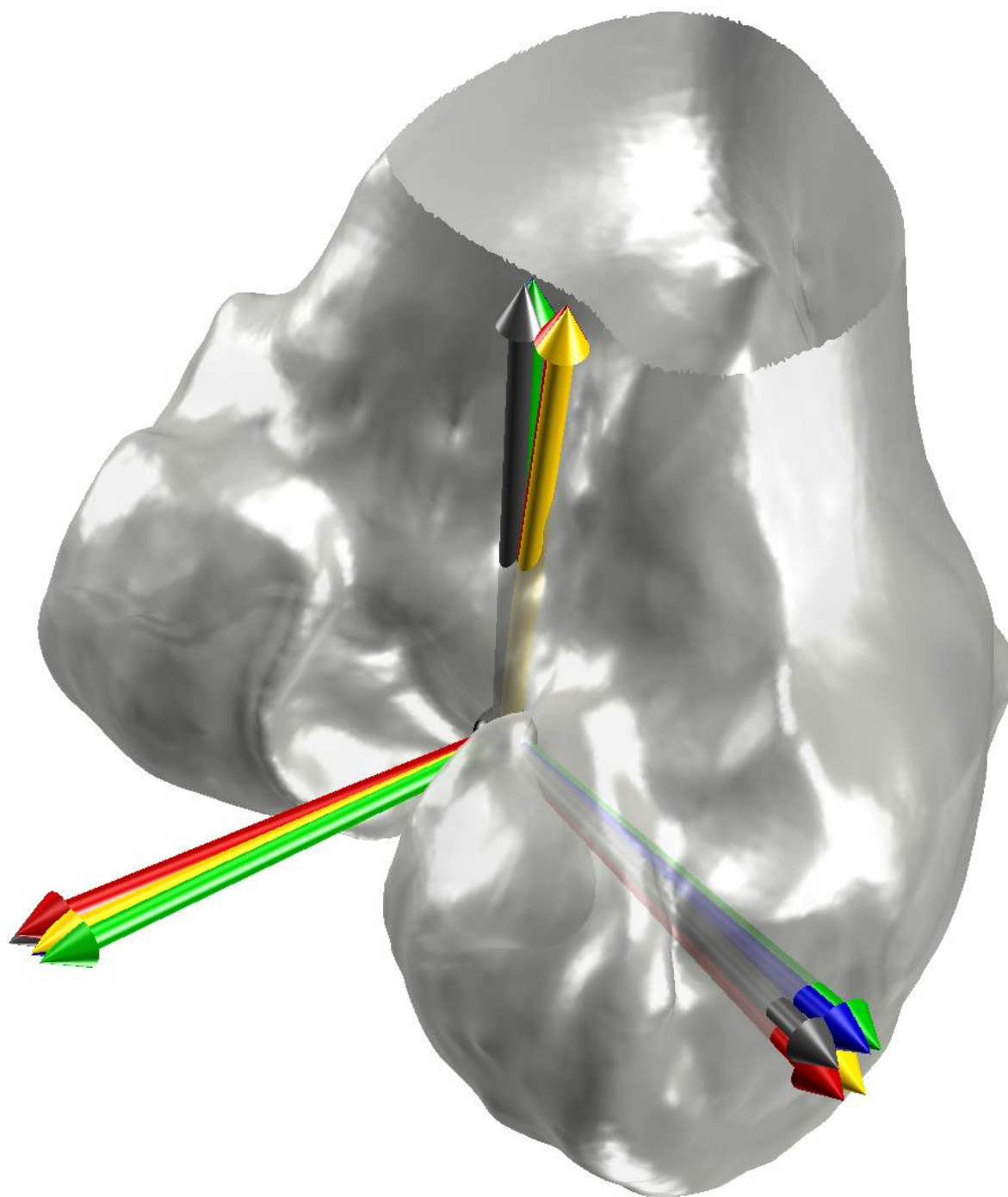







-  PCC
-  PCS
-  CE
-  Kai et Al. 2014
-  Miranda et Al. 2010

All constructed ACSs on the operator3's reconstruction of the femur of subject 12.

ACS differences for femoral algorithms

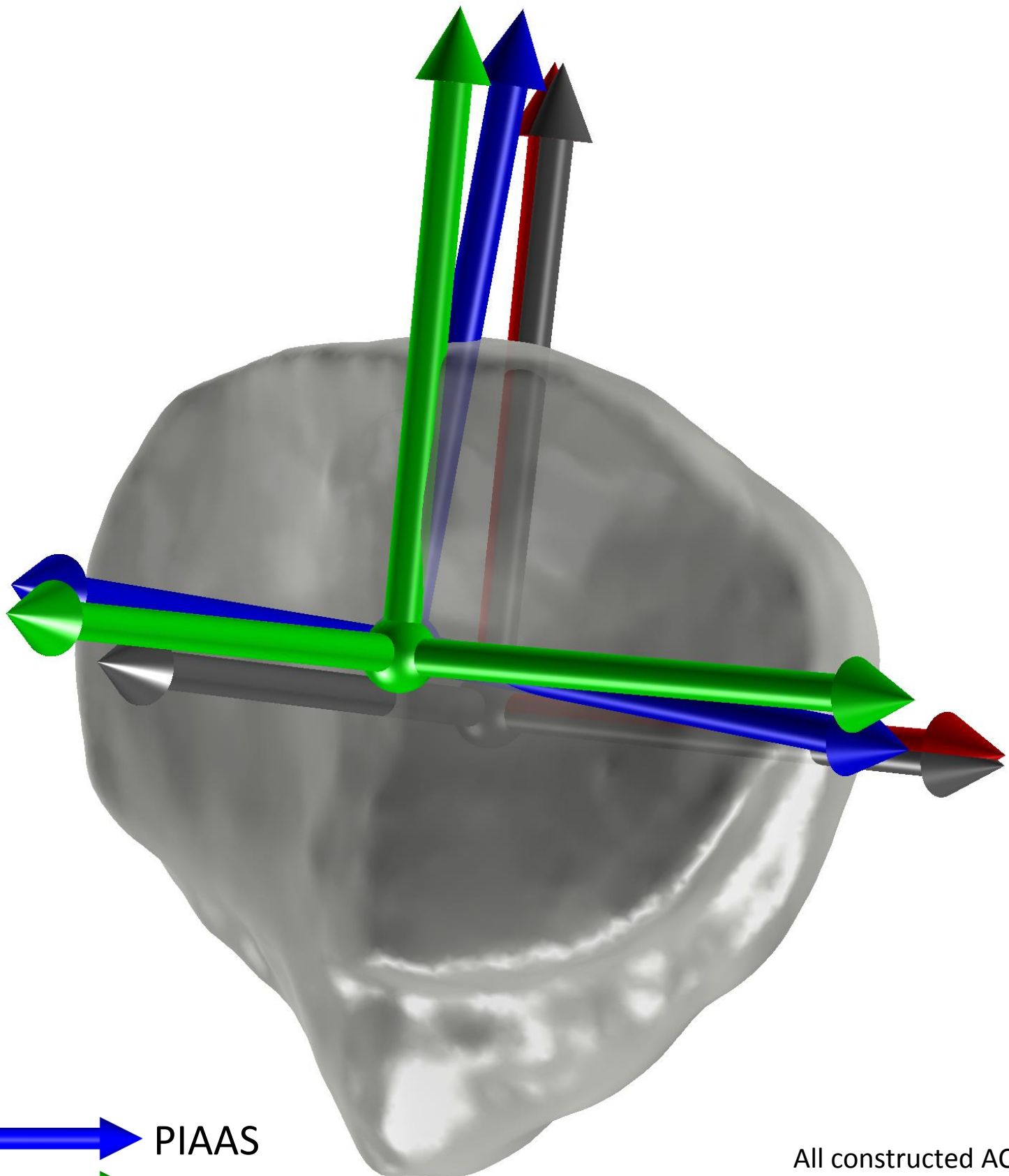
All ACS origins were translated to PCC ACS origin to facilitate comparison of the ACS orientation differences







-  PCC
-  PCS
-  CE
-  Kai et Al. 2014
-  Miranda et Al. 2010

All constructed ACSs on the operator3's reconstruction of the femur of subject 12.

ACS differences for patellar algorithms

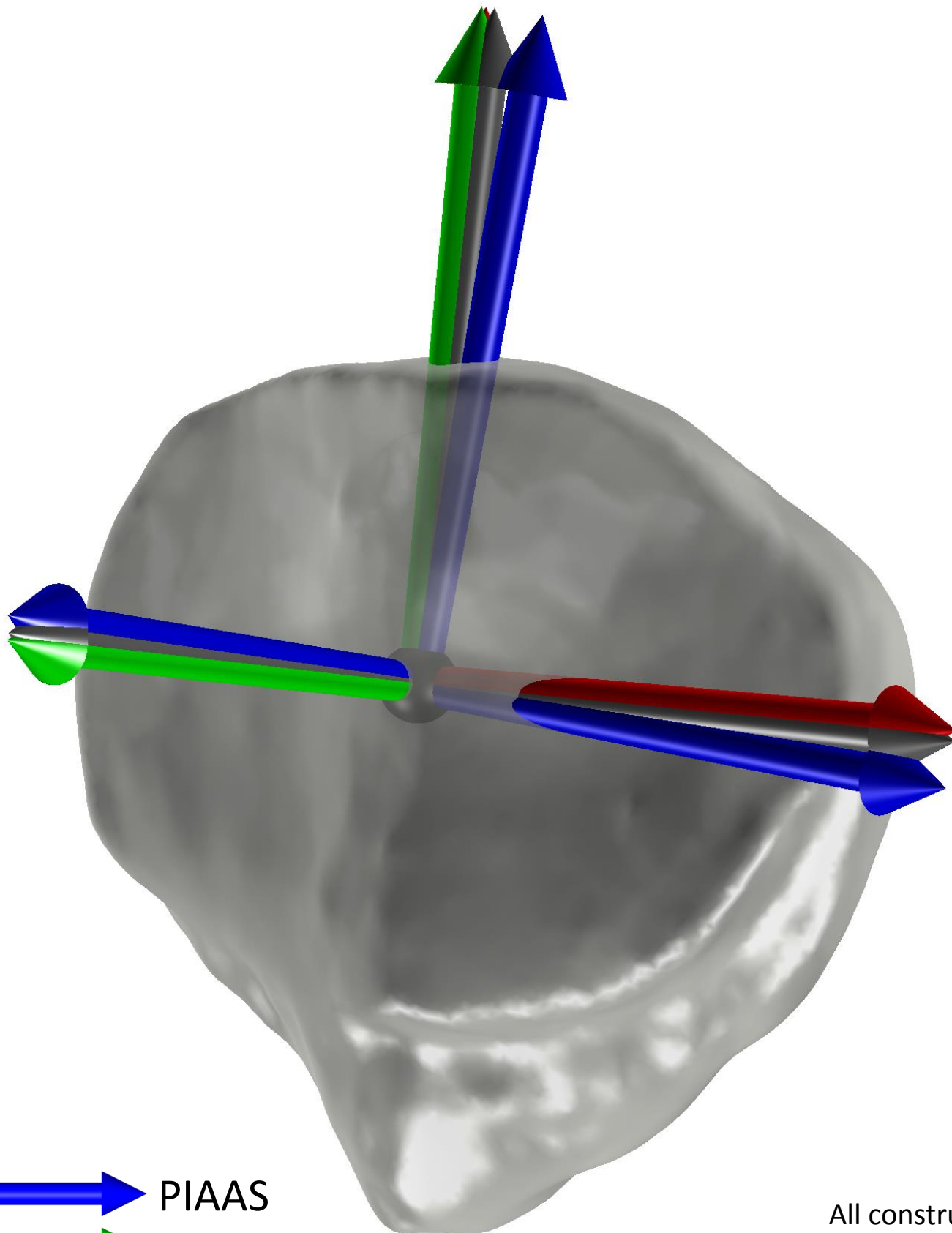






-  PIAAS
-  RL
-  VR
-  Rainbow et Al. 2013

All constructed ACSs on the operator1's reconstruction of the patella of subject 13.

ACS differences for patellar algorithms

All ACS origins were translated to PIAAS ACS origin to facilitate comparison of the ACS orientation differences



-  PIAAS
-  RL
-  VR
-  Rainbow et Al. 2013

All constructed ACSs on the operator1's reconstruction of the patella of subject 13.

Differences between ACSs from the 3 different operators for tibial algorithms

ACS constructed from operator1 reconstruction with algorithm ECASE.



ACS constructed from operator2 reconstruction with algorithm ECASE.

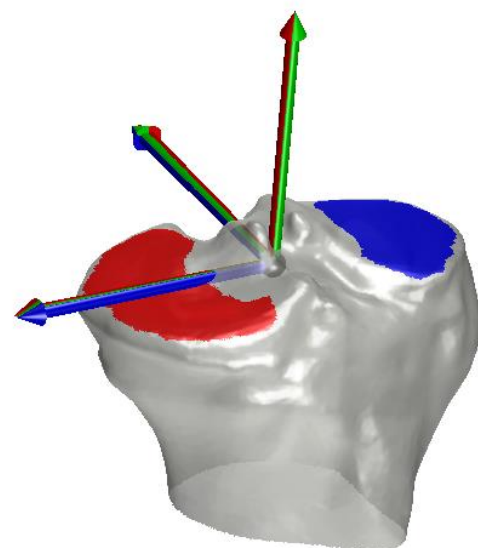


ECASE best case

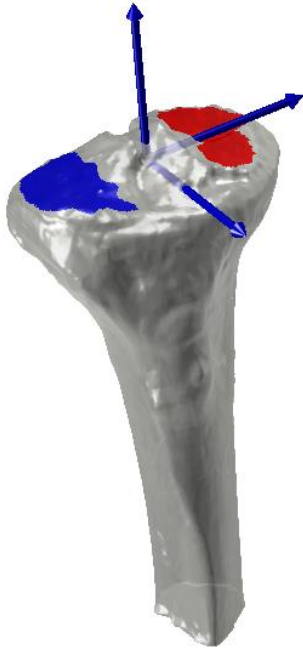
ACS constructed from operator3 reconstruction with algorithm ECASE.



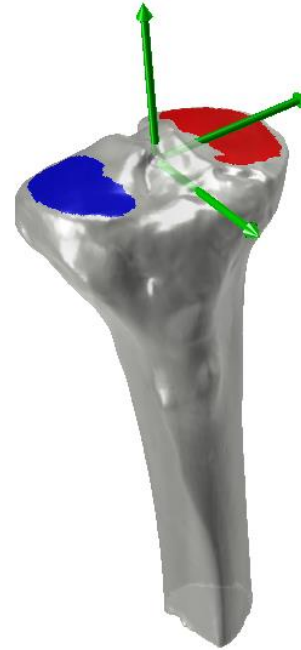
The same 3 ACSs constructed displayed on an unique reconstruction to see the variability of ECASE



ACS constructed from operator1 reconstruction with algorithm ECASE.

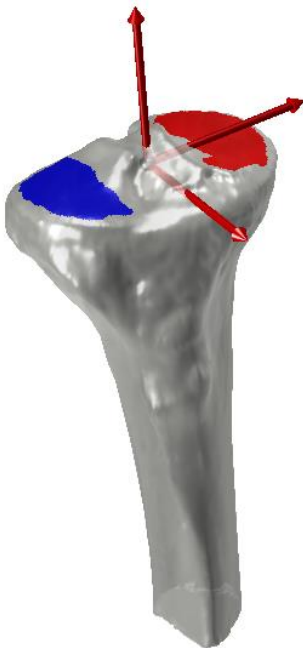


ACS constructed from operator2 reconstruction with algorithm ECASE.

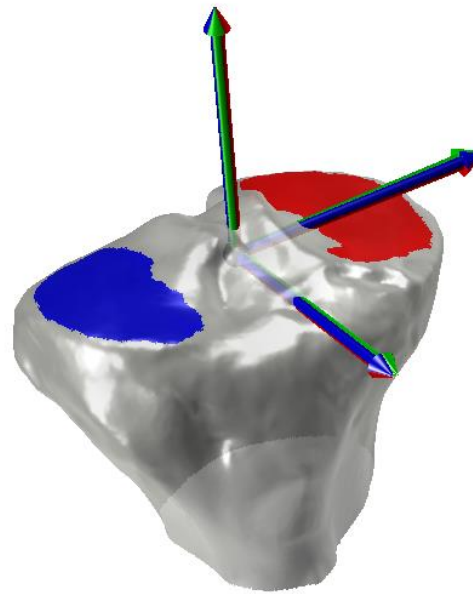


ECASE median case

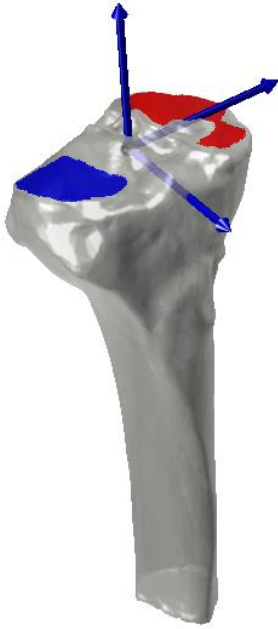
ACS constructed from operator3 reconstruction with algorithm ECASE.



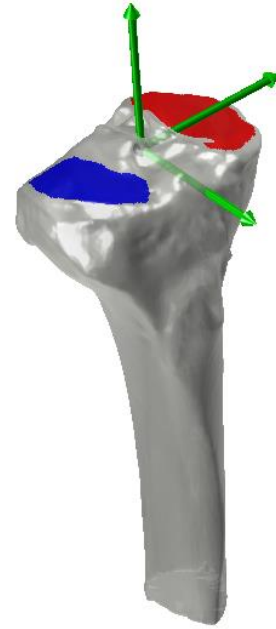
The same 3 ACSs constructed displayed on an unique reconstruction to see the variability of ECASE



ACS constructed from operator1 reconstruction with algorithm ECASE.

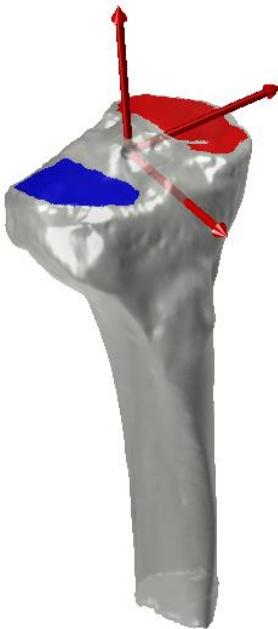


ACS constructed from operator2 reconstruction with algorithm ECASE.

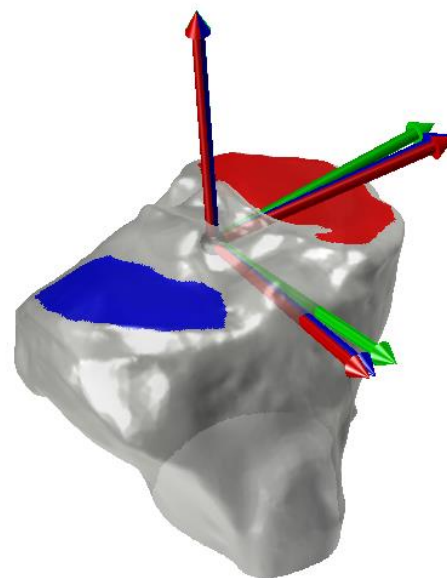


ECASE worst case

ACS constructed from operator3 reconstruction with algorithm ECASE.



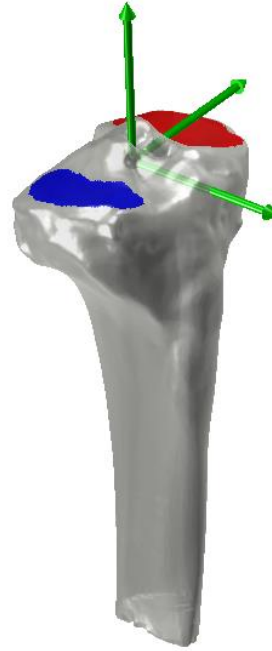
The same 3 ACSs constructed displayed on an unique reconstruction to see the variability of ECASE



ACS constructed from operator1 reconstruction with algorithm CASC.

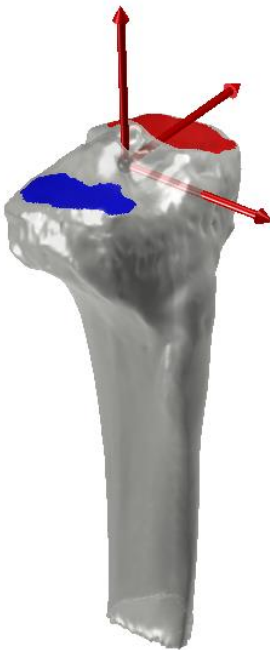


ACS constructed from operator2 reconstruction with algorithm CASC.

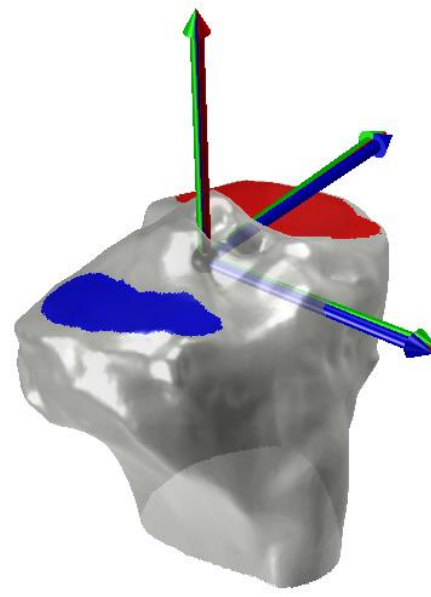


CASC best case

ACS constructed from operator3 reconstruction with algorithm CASC.



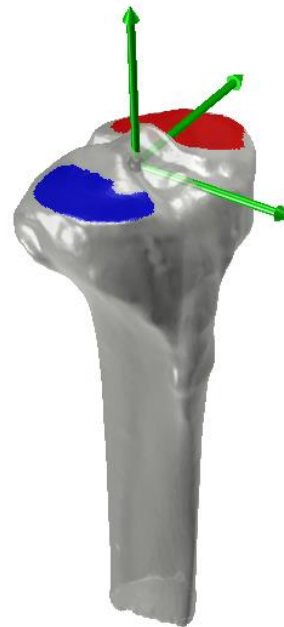
The same 3 ACSs constructed displayed on an unique reconstruction to see the variability of CASC



ACS constructed from operator1 reconstruction with algorithm CASC.

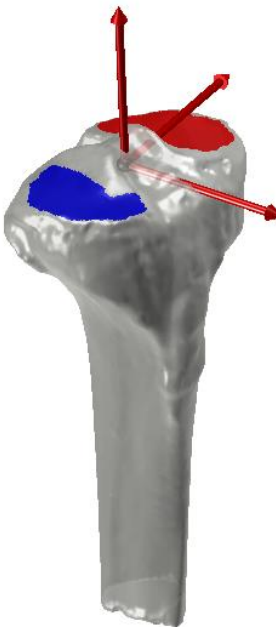


ACS constructed from operator2 reconstruction with algorithm CASC.

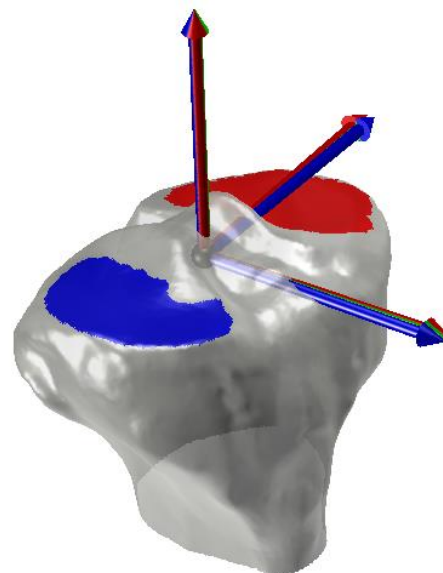


CASC median case

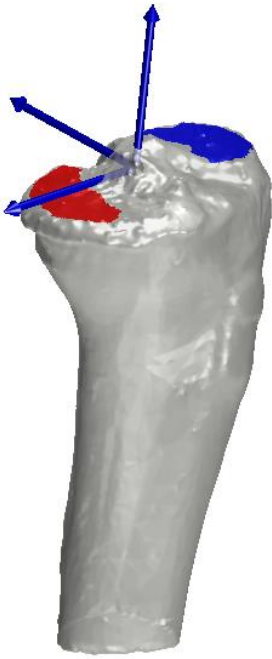
ACS constructed from operator3 reconstruction with algorithm CASC.



The same 3 ACSs constructed displayed on an unique reconstruction to see the variability of CASC



ACS constructed from operator1 reconstruction with algorithm CASC.



ACS constructed from operator2 reconstruction with algorithm CASC.

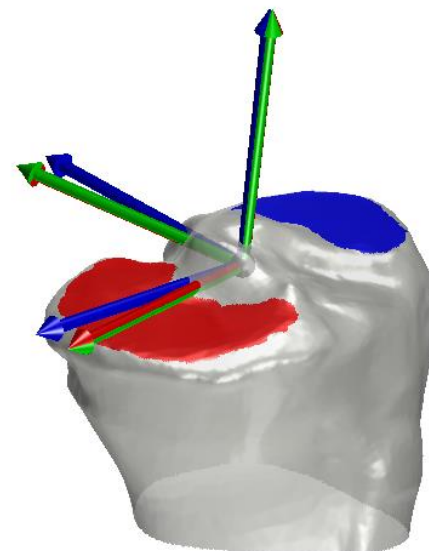


CASC worst case

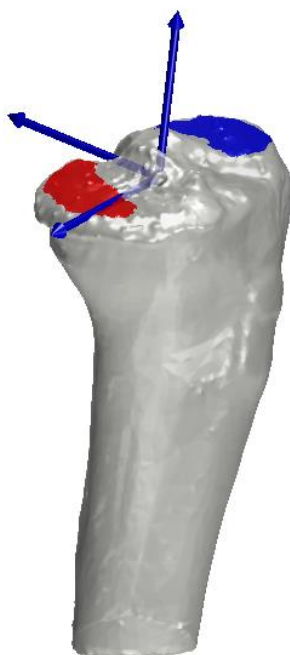
ACS constructed from operator3 reconstruction with algorithm CASC.



The same 3 ACSs constructed displayed on an unique reconstruction to see the variability of CASC



ACS constructed from operator1 reconstruction with algorithm PIAASL.



ACS constructed from operator2 reconstruction with algorithm PIAASL.

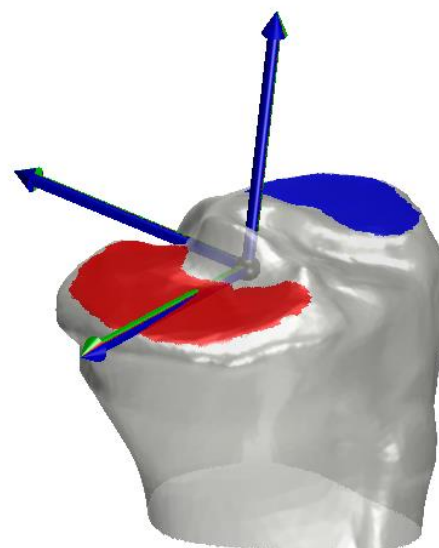


PIAASL best case

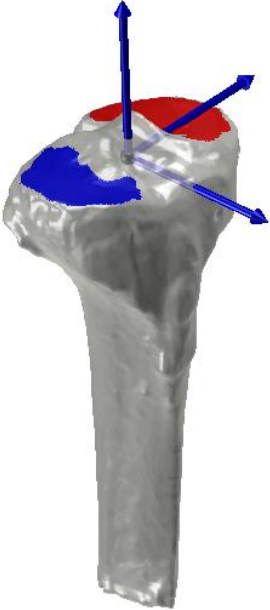
ACS constructed from operator3 reconstruction with algorithm PIAASL.



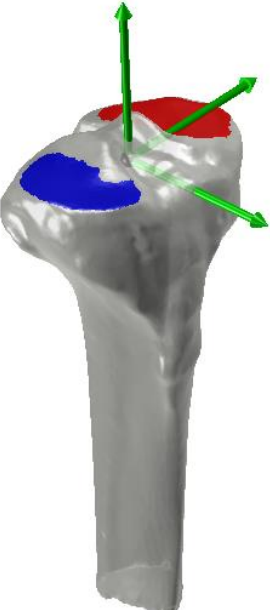
The same 3 ACSs constructed displayed on an unique reconstruction to see the variability of PIAASL



ACS constructed from operator1 reconstruction with algorithm PIAASL.

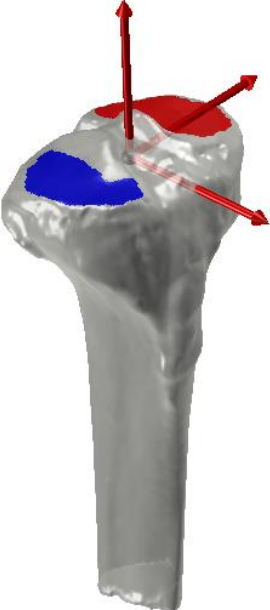


ACS constructed from operator2 reconstruction with algorithm PIAASL.

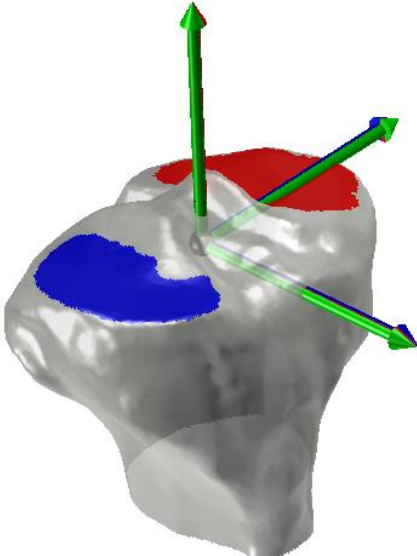


PIAASL median case

ACS constructed from operator3 reconstruction with algorithm PIAASL.



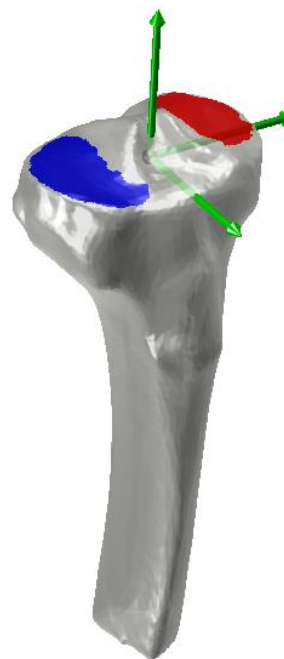
The same 3 ACSs constructed displayed on an unique reconstruction to see the variability of PIAASL



ACS constructed from operator1 reconstruction with algorithm PIAASL.

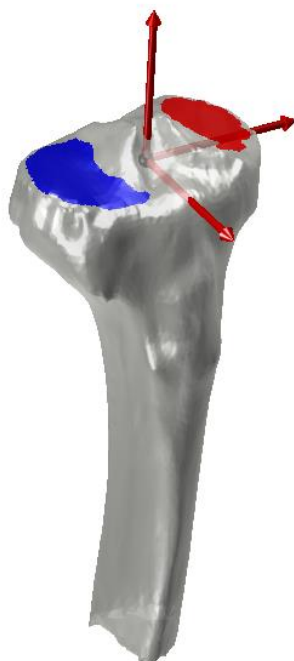


ACS constructed from operator2 reconstruction with algorithm PIAASL.

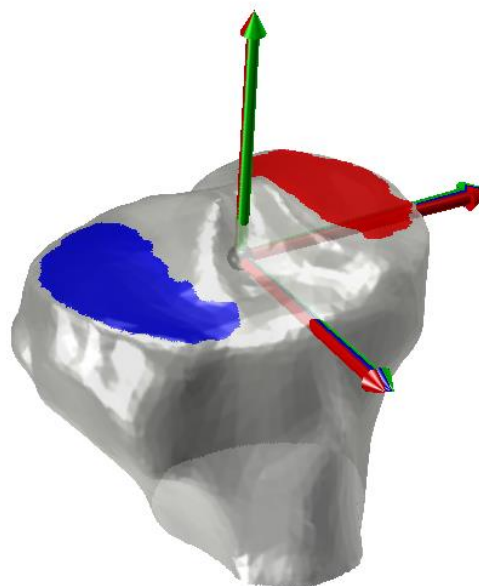


PIAASL worst case

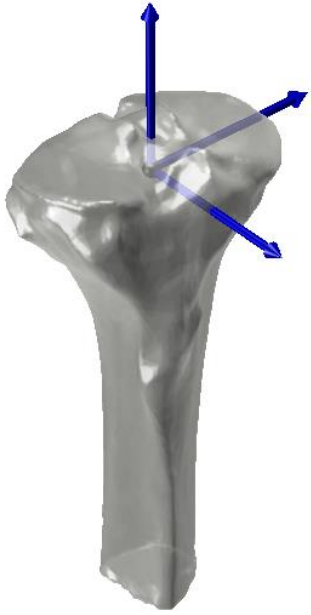
ACS constructed from operator3 reconstruction with algorithm PIAASL.



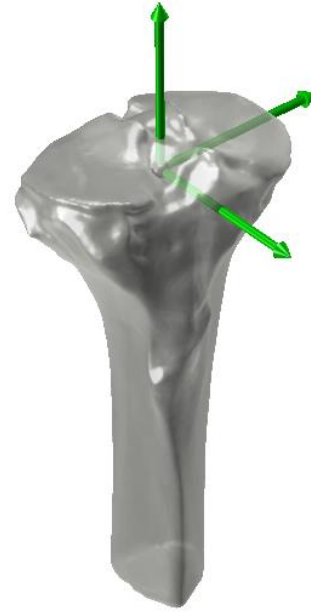
The same 3 ACSs constructed displayed on an unique reconstruction to see the variability of PIAASL



ACS constructed from operator1 reconstruction with algorithm Kai et Al. 2014.

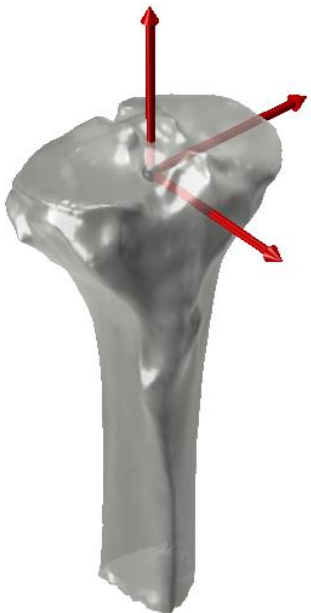


ACS constructed from operator2 reconstruction with algorithm Kai et Al. 2014.

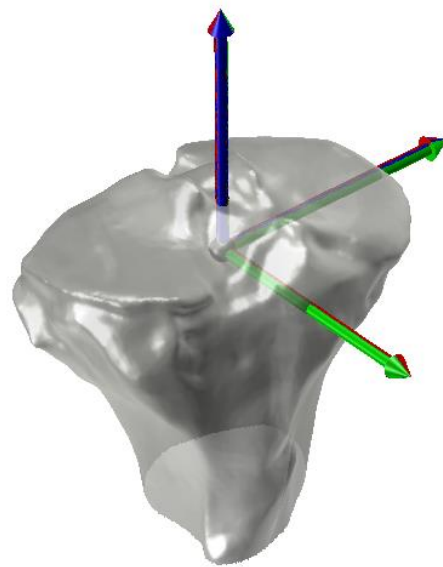


Kai et Al 2014 best case

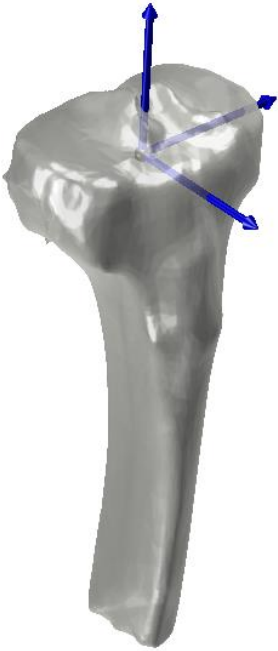
ACS constructed from operator3 reconstruction with algorithm Kai et Al. 2014.



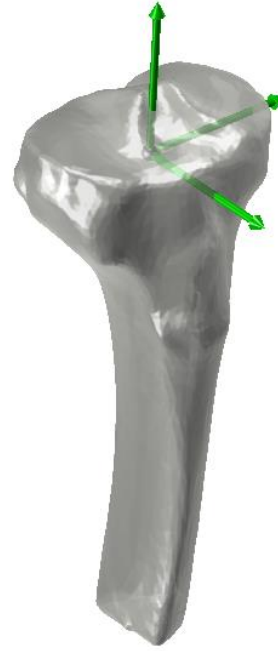
The same 3 ACSs constructed displayed on an unique reconstruction to see the variability of Kai et Al. 2014



ACS constructed from operator1 reconstruction with algorithm Kai et Al. 2014.



ACS constructed from operator2 reconstruction with algorithm Kai et Al. 2014.

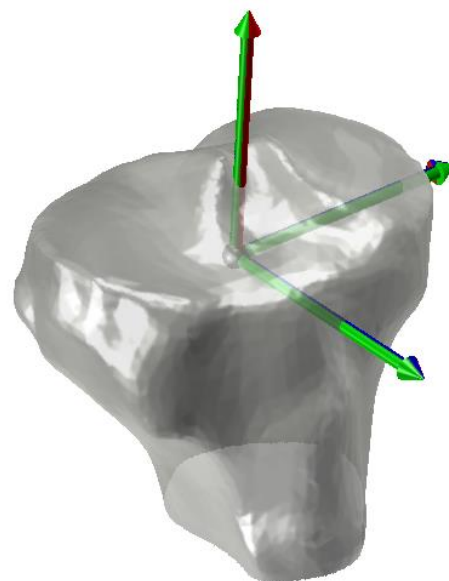


Kai et Al 2014 median case

ACS constructed from operator3 reconstruction with algorithm Kai et Al. 2014.



The same 3 ACSs constructed displayed on an unique reconstruction to see the variability of Kai et Al. 2014



ACS constructed from operator1 reconstruction with algorithm Kai et Al. 2014.



ACS constructed from operator2 reconstruction with algorithm Kai et Al. 2014.

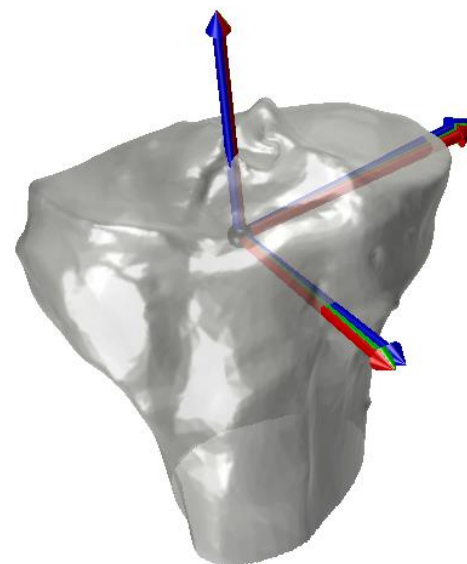


Kai et Al 2014 worst case

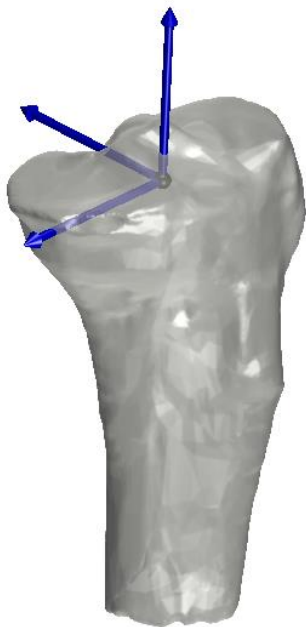
ACS constructed from operator3 reconstruction with algorithm Kai et Al. 2014.



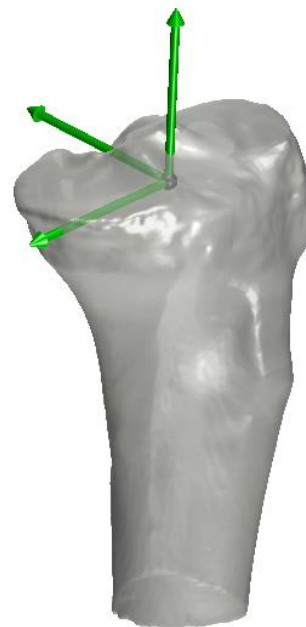
The same 3 ACSs constructed displayed on an unique reconstruction to see the variability of Kai et Al. 2014



ACS constructed from operator1 reconstruction with algorithm Miranda et Al. 2010.

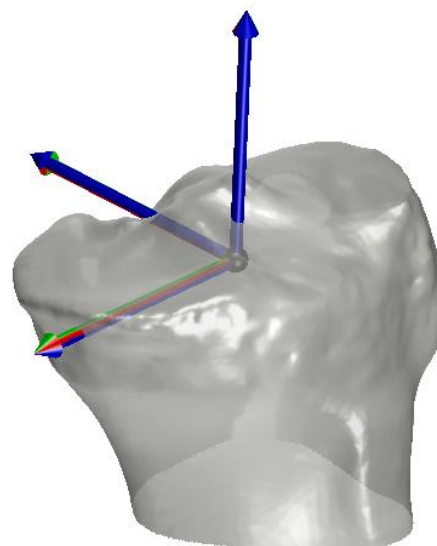


ACS constructed from operator2 reconstruction with algorithm Miranda et Al. 2010.

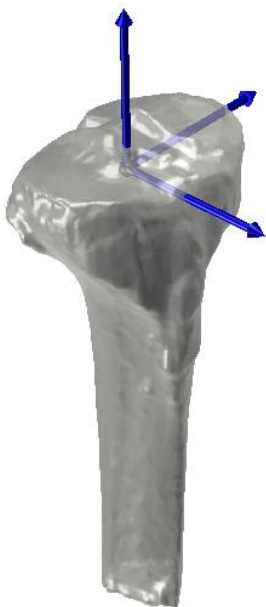


Miranda et Al 2010 best case

ACS constructed from operator3 reconstruction with algorithm Miranda et Al. 2010. The same 3 ACSs constructed displayed on an unique reconstruction to see the variability of Miranda et Al. 2010.



ACS constructed from operator1 reconstruction with algorithm Miranda et Al. 2010.

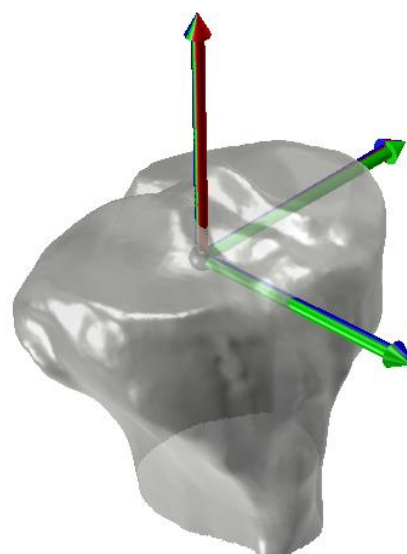


ACS constructed from operator2 reconstruction with algorithm Miranda et Al. 2010.



Miranda et Al 2010 median case

ACS constructed from operator3 reconstruction with algorithm Miranda et Al. 2010. The same 3 ACSs constructed displayed on an unique reconstruction to see the variability of Miranda et Al. 2010.



ACS constructed from operator1 reconstruction with algorithm Miranda et Al. 2010.

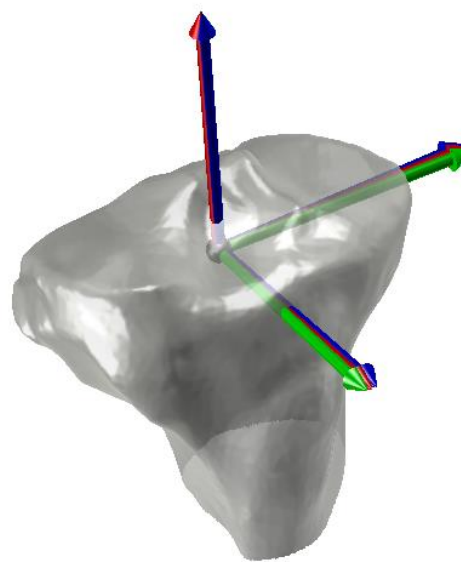


ACS constructed from operator2 reconstruction with algorithm Miranda et Al. 2010.



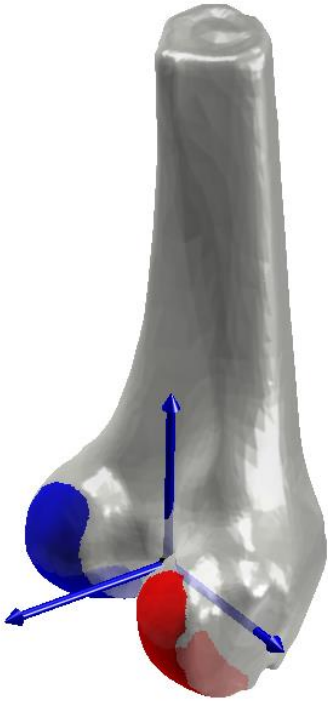
Miranda et Al 2010 worst case

ACS constructed from operator3 reconstruction with algorithm Miranda et Al. 2010. The same 3 ACSs constructed displayed on an unique reconstruction to see the variability of Miranda et Al. 2010.

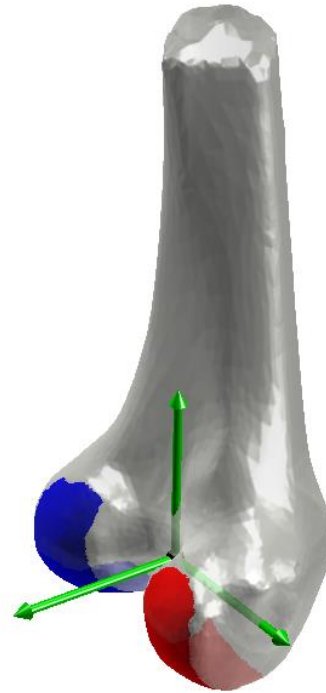


Differences between ACSs from the 3 different operators for femoral algorithms

ACS constructed from operator1 reconstruction with algorithm PCC.

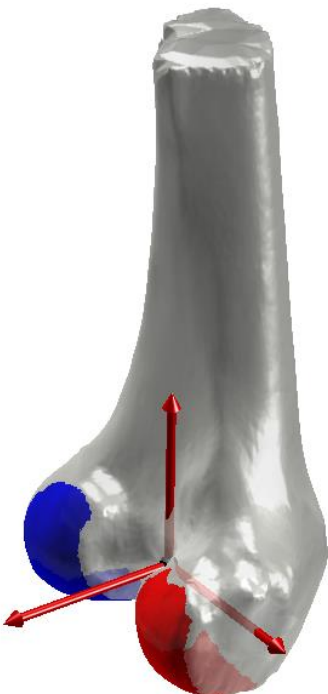


ACS constructed from operator2 reconstruction with algorithm PCC.

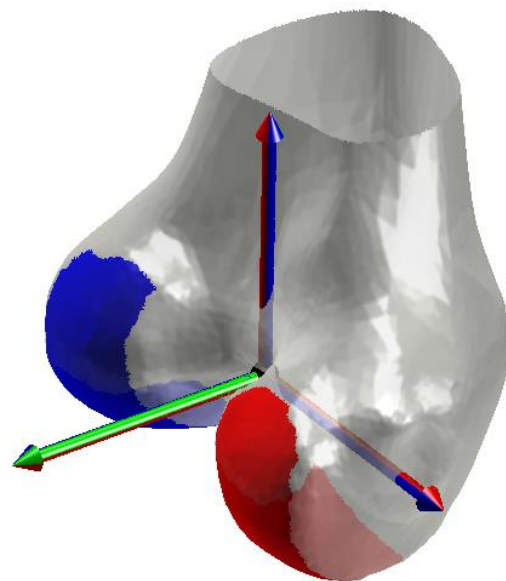


PCC best case

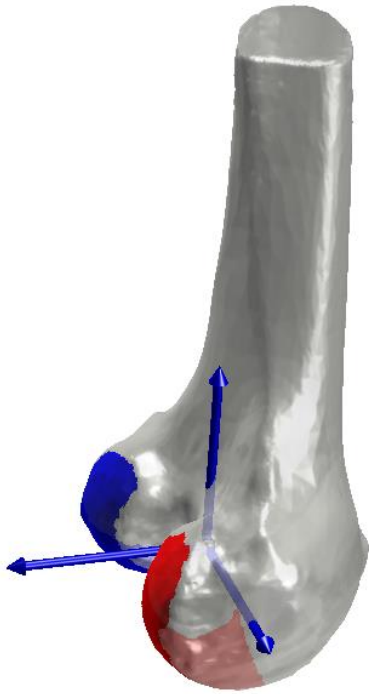
ACS constructed from operator3 reconstruction with algorithm PCC.



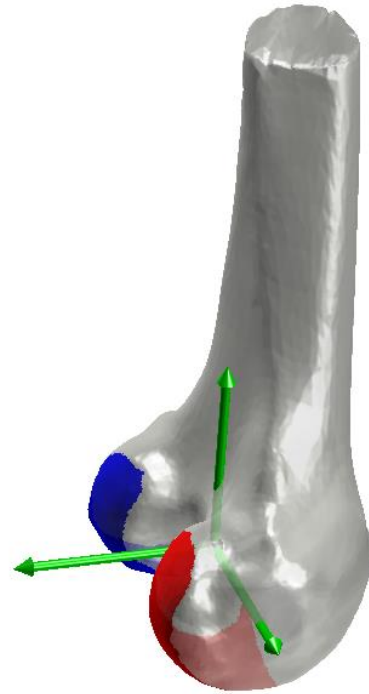
The same 3 ACSs constructed displayed on an unique reconstruction to see the variability of PCC



ACS constructed from operator1 reconstruction with algorithm PCC.

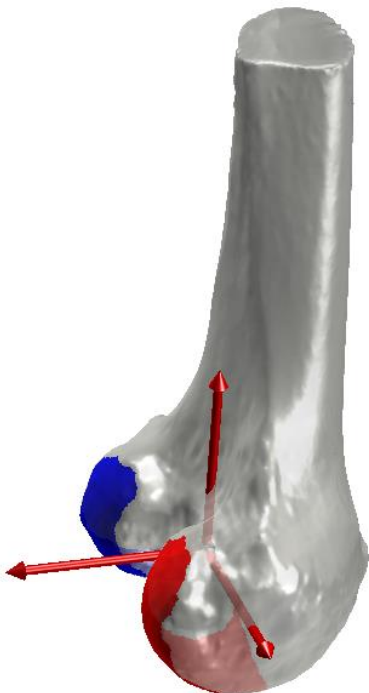


ACS constructed from operator2 reconstruction with algorithm PCC.

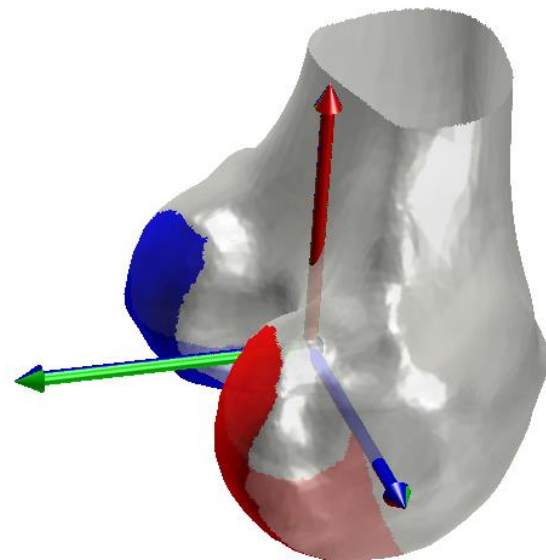


PCC median case

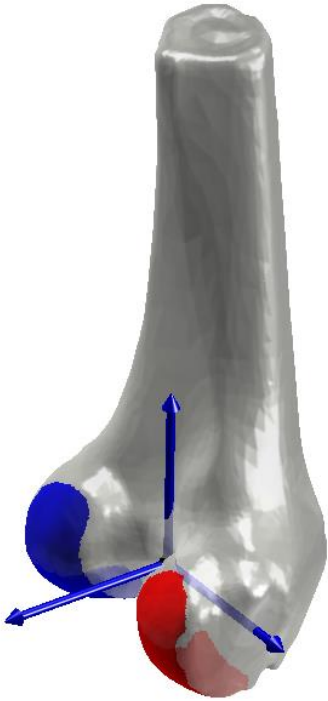
ACS constructed from operator3 reconstruction with algorithm PCC.



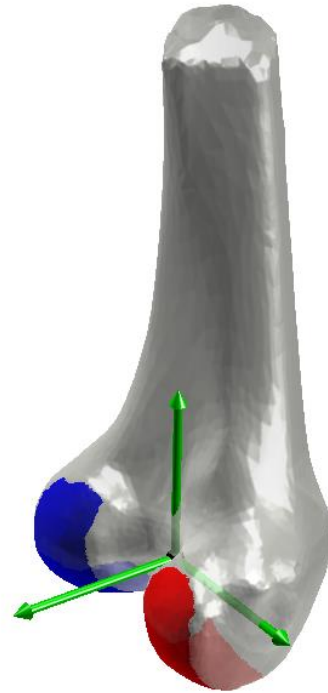
The same 3 ACSs constructed displayed on an unique reconstruction to see the variability of PCC



ACS constructed from operator1 reconstruction with algorithm PCC.

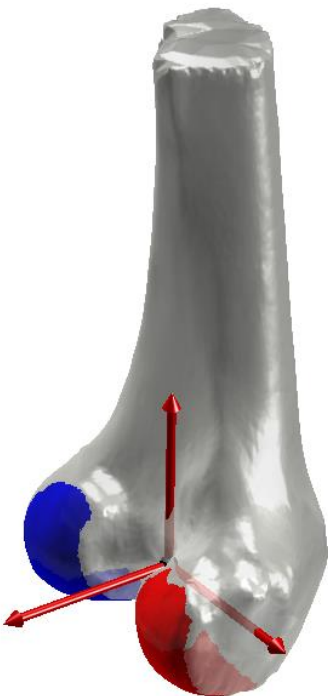


ACS constructed from operator2 reconstruction with algorithm PCC.

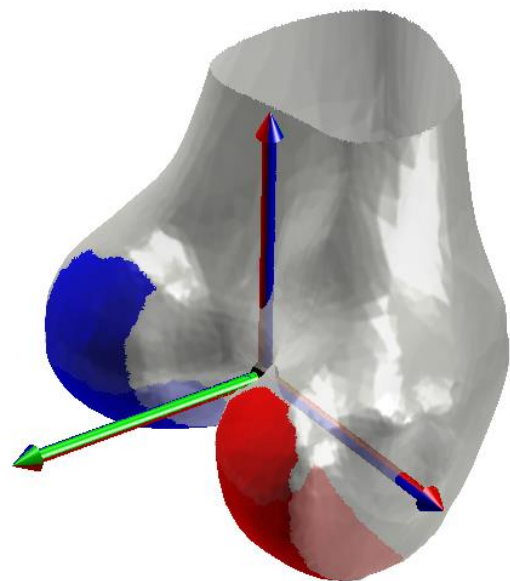


PCC worst case

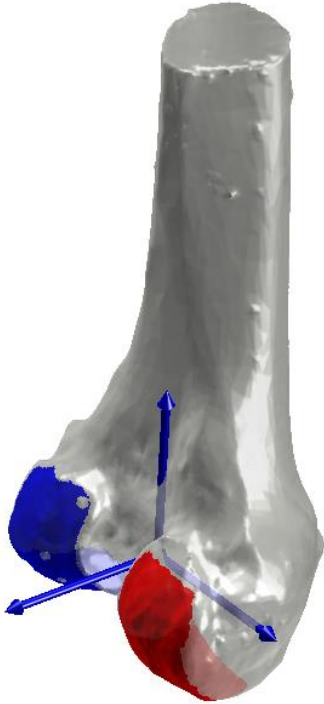
ACS constructed from operator3 reconstruction with algorithm PCC.



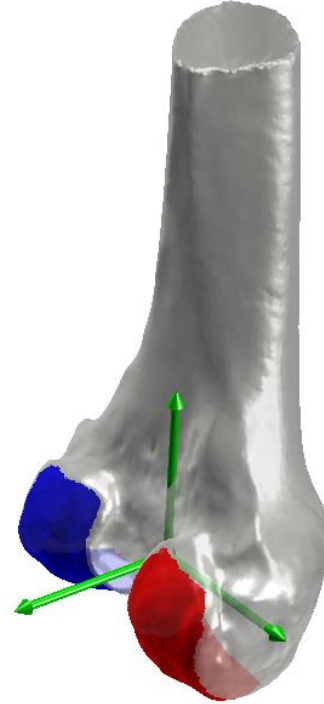
The same 3 ACSs constructed displayed on an unique reconstruction to see the variability of PCC



ACS constructed from operator1 reconstruction with algorithm PCS.

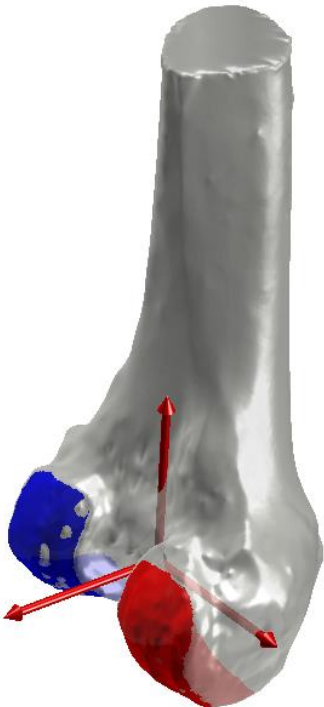


ACS constructed from operator2 reconstruction with algorithm PCS.

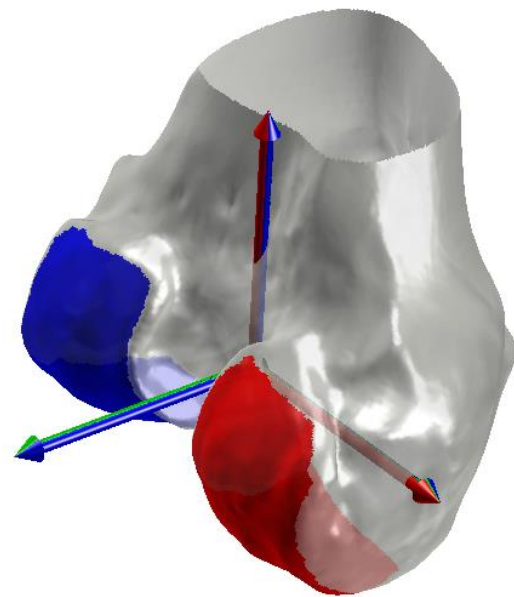


PCS best case

ACS constructed from operator3 reconstruction with algorithm PCS.



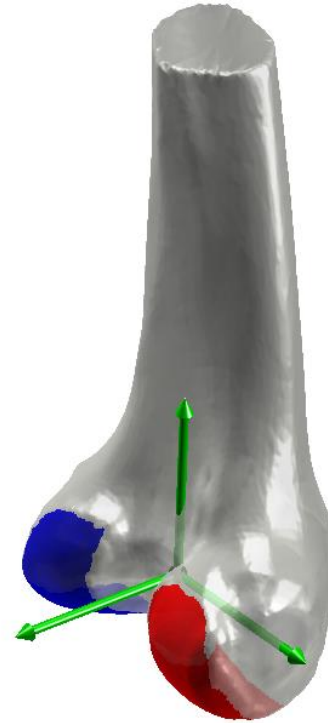
The same 3 ACSs constructed displayed on an unique reconstruction to see the variability of PCS



ACS constructed from operator1 reconstruction with algorithm PCS.

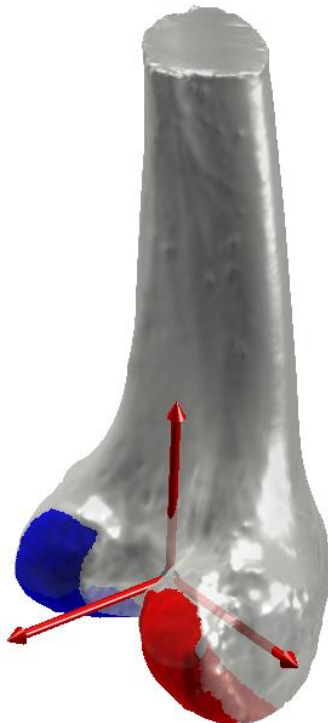


ACS constructed from operator2 reconstruction with algorithm PCS.

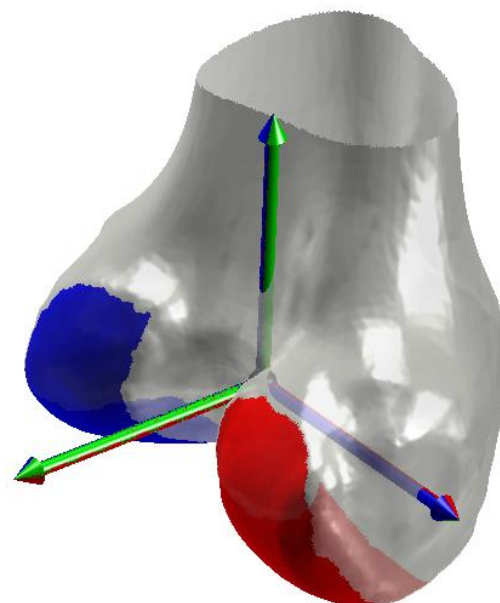


PCS median case

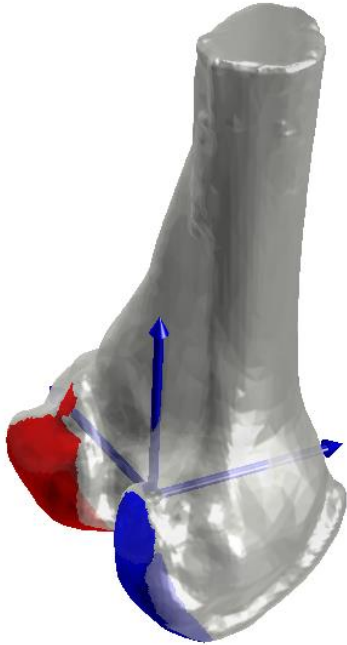
ACS constructed from operator3 reconstruction with algorithm PCS.



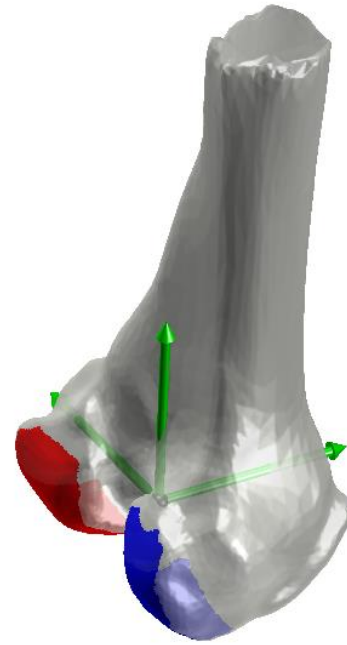
The same 3 ACSs constructed displayed on an unique reconstruction to see the variability of PCS



ACS constructed from operator1 reconstruction with algorithm PCS.

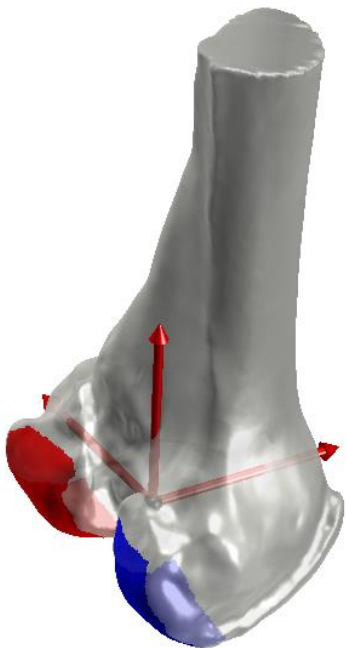


ACS constructed from operator2 reconstruction with algorithm PCS.

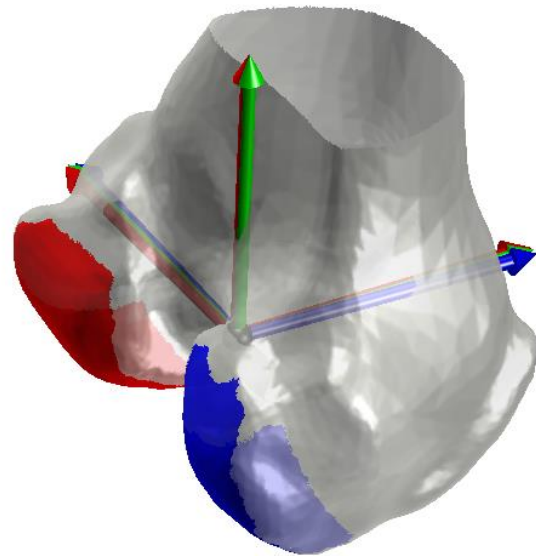


PCS worst case

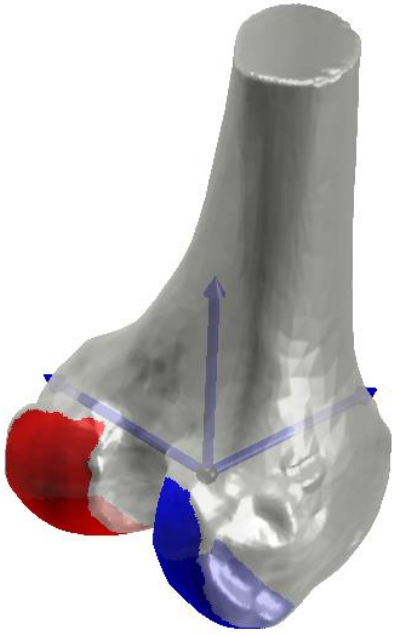
ACS constructed from operator3 reconstruction with algorithm PCS.



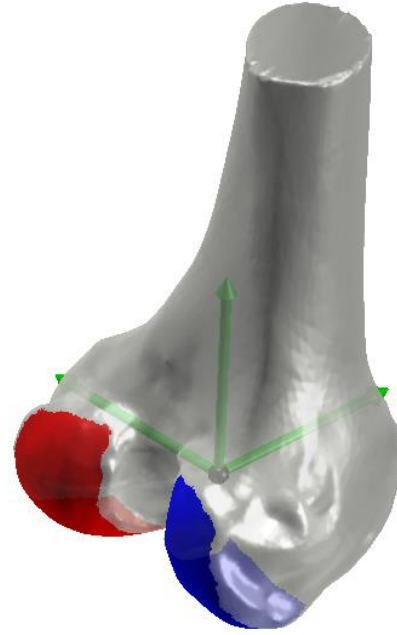
The same 3 ACSs constructed displayed on an unique reconstruction to see the variability of PCS



ACS constructed from operator1 reconstruction with algorithm CE.

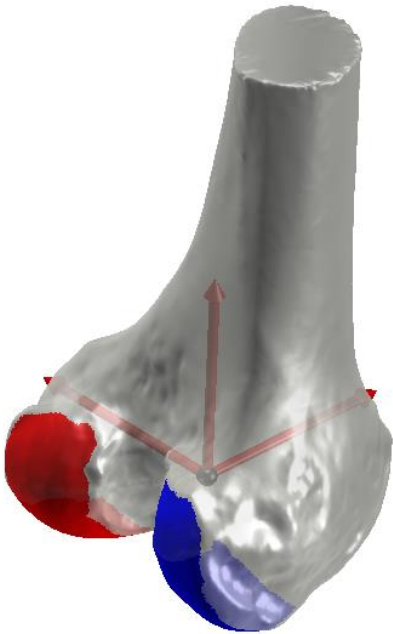


ACS constructed from operator2 reconstruction with algorithm CE.

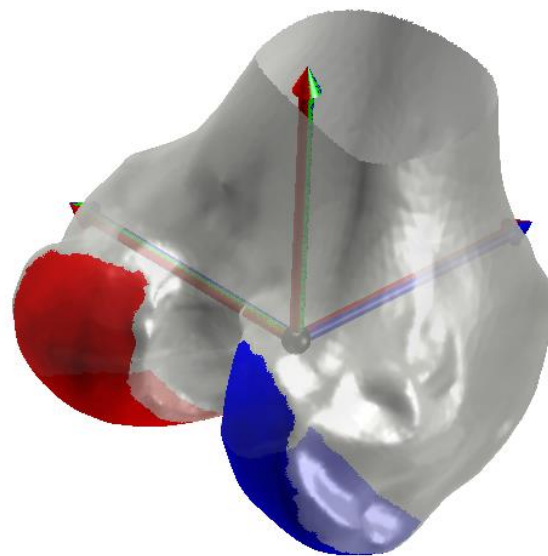


CE best case

ACS constructed from operator3 reconstruction with algorithm CE.



The same 3 ACSs constructed displayed on an unique reconstruction to see the variability of CE



ACS constructed from operator1 reconstruction with algorithm CE.



ACS constructed from operator2 reconstruction with algorithm CE.

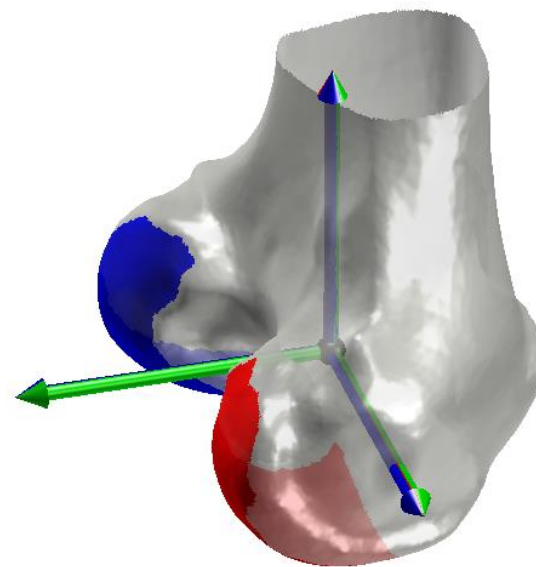


CE median case

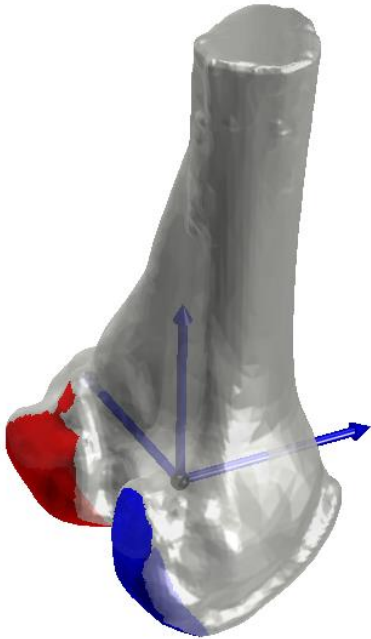
ACS constructed from operator3 reconstruction with algorithm CE.



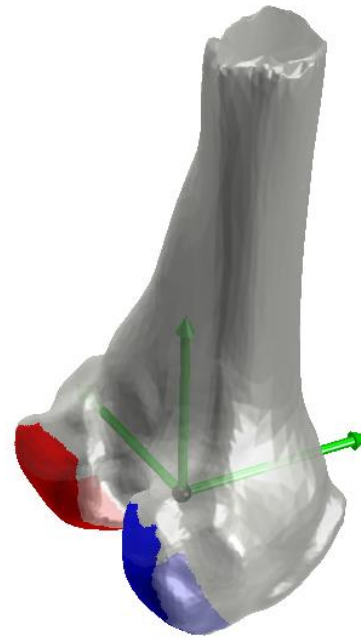
The same 3 ACSs constructed displayed on an unique reconstruction to see the variability of CE



ACS constructed from operator1 reconstruction with algorithm CE.

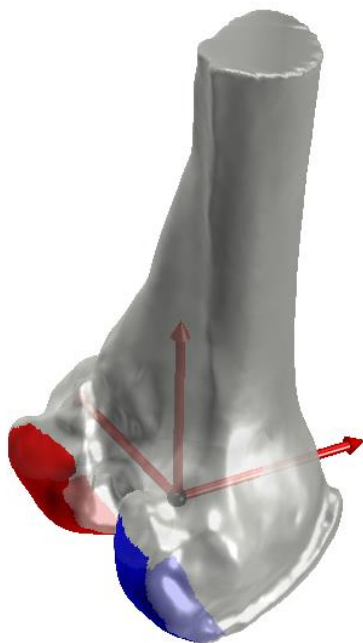


ACS constructed from operator2 reconstruction with algorithm CE.

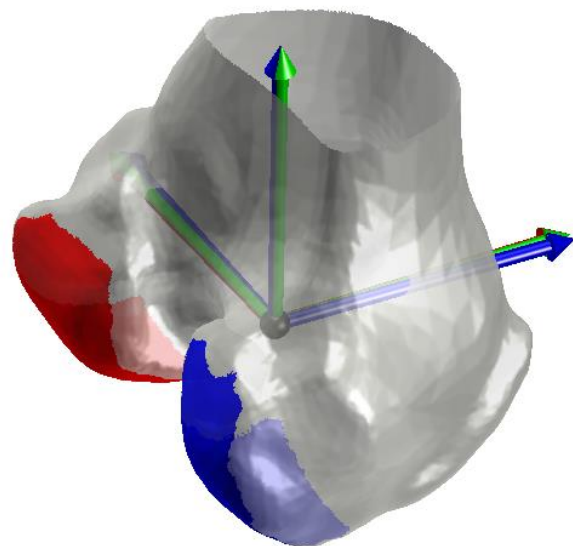


CE worst case

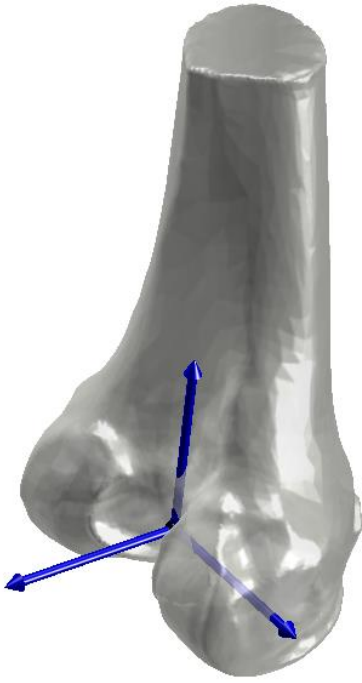
ACS constructed from operator3 reconstruction with algorithm CE.



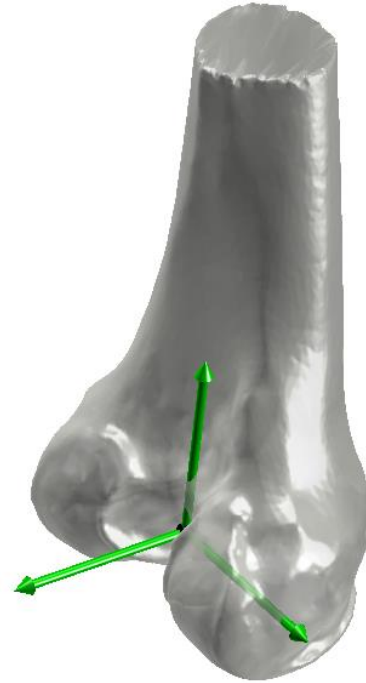
The same 3 ACSs constructed displayed on an unique reconstruction to see the variability of CE



ACS constructed from operator1 reconstruction with algorithm Kai et Al. 2014.



ACS constructed from operator2 reconstruction with algorithm Kai et Al. 2014.

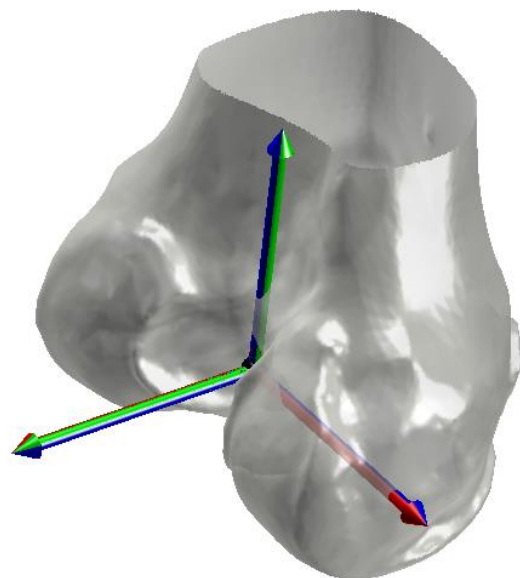


Kai et Al 2014 best case

ACS constructed from operator3 reconstruction with algorithm Kai et Al. 2014.



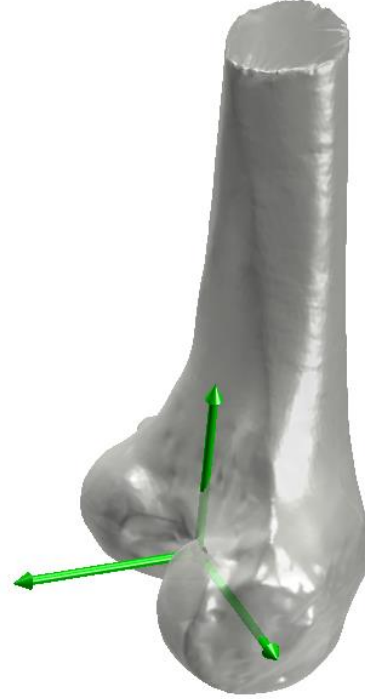
The same 3 ACSs constructed displayed on an unique reconstruction to see the variability of Kai et Al. 2014



ACS constructed from operator1 reconstruction with algorithm Kai et Al. 2014.



ACS constructed from operator2 reconstruction with algorithm Kai et Al. 2014.

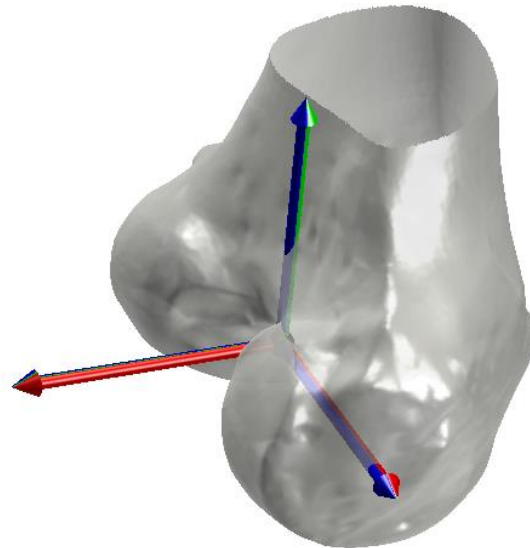


Kai et Al 2014 median case

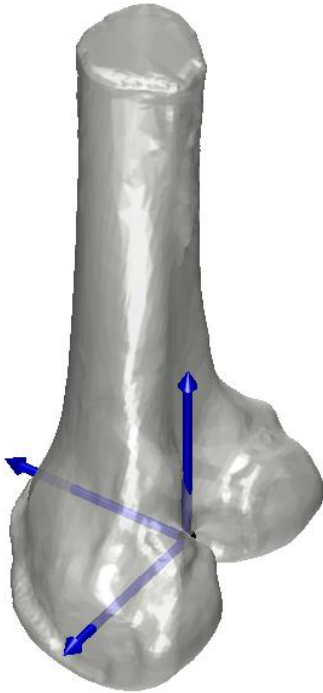
ACS constructed from operator3 reconstruction with algorithm Kai et Al. 2014.



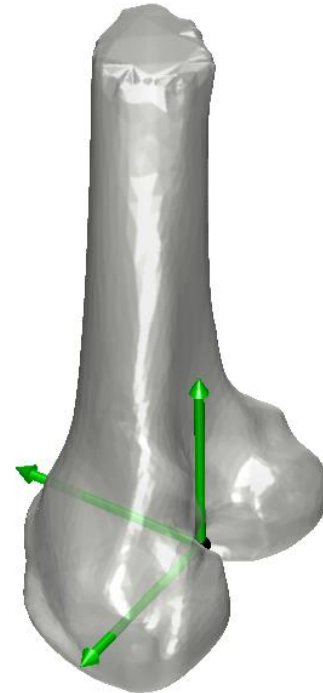
The same 3 ACSs constructed displayed on an unique reconstruction to see the variability of Kai et Al. 2014



ACS constructed from operator1 reconstruction with algorithm Kai et Al. 2014.

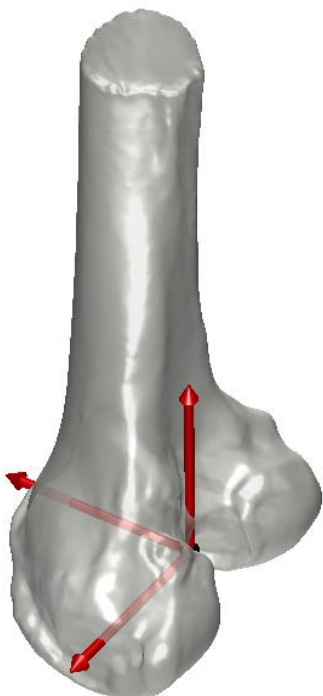


ACS constructed from operator2 reconstruction with algorithm Kai et Al. 2014.

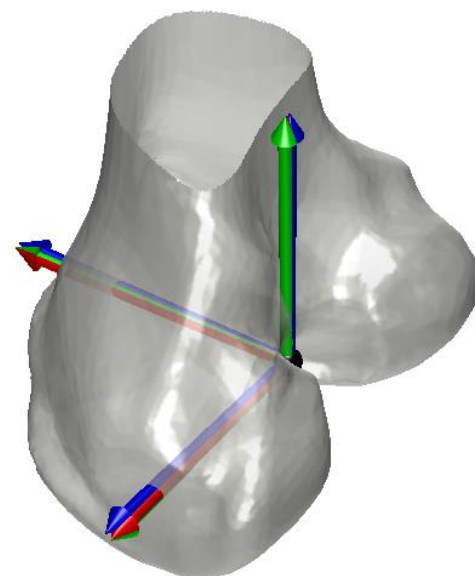


Kai et Al 2014 worst case

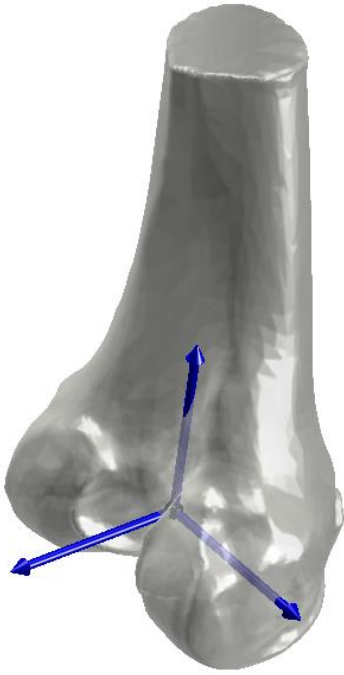
ACS constructed from operator3 reconstruction with algorithm Kai et Al. 2014.



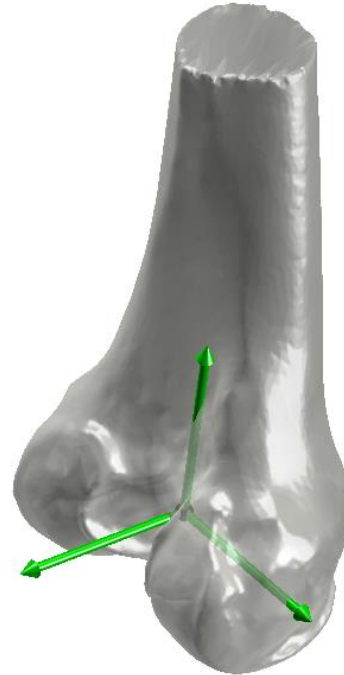
The same 3 ACSs constructed displayed on an unique reconstruction to see the variability of Kai et Al. 2014



ACS constructed from operator1 reconstruction with algorithm Miranda et Al. 2010.

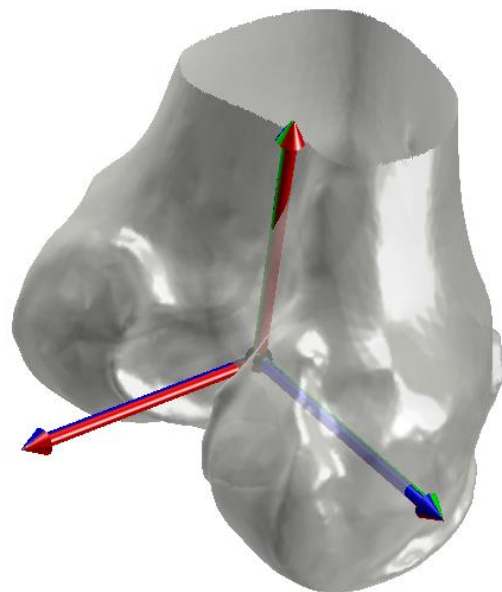


ACS constructed from operator2 reconstruction with algorithm Miranda et Al. 2010.

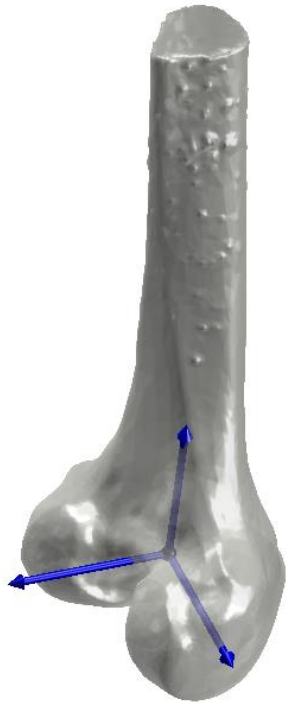


Miranda et Al 2010 best case

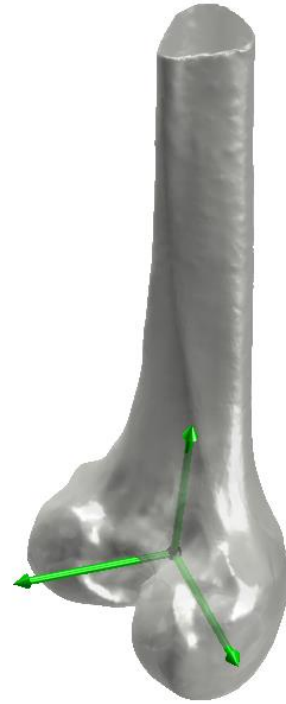
ACS constructed from operator3 reconstruction with algorithm Miranda et Al. 2010. The same 3 ACSs constructed displayed on an unique reconstruction to see the variability of Miranda et Al. 2010



ACS constructed from operator1 reconstruction with algorithm Miranda et Al. 2010.

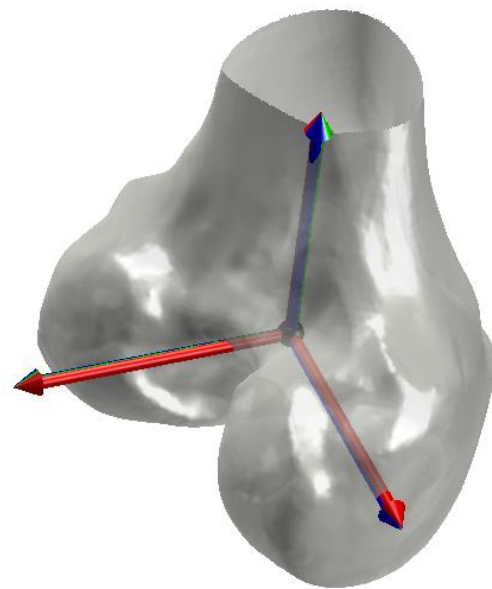


ACS constructed from operator2 reconstruction with algorithm Miranda et Al. 2010.



Miranda et Al 2010 median case

ACS constructed from operator3 reconstruction with algorithm Miranda et Al. 2010. The same 3 ACSs constructed displayed on an unique reconstruction to see the variability of Miranda et Al. 2010



ACS constructed from operator1 reconstruction with algorithm Miranda et Al. 2010.



ACS constructed from operator2 reconstruction with algorithm Miranda et Al. 2010.

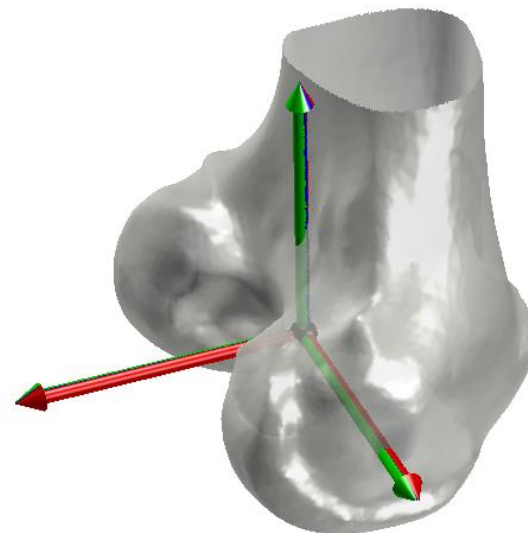


Miranda et Al 2010 worst case

ACS constructed from operator3 reconstruction with algorithm Miranda et Al. 2010.

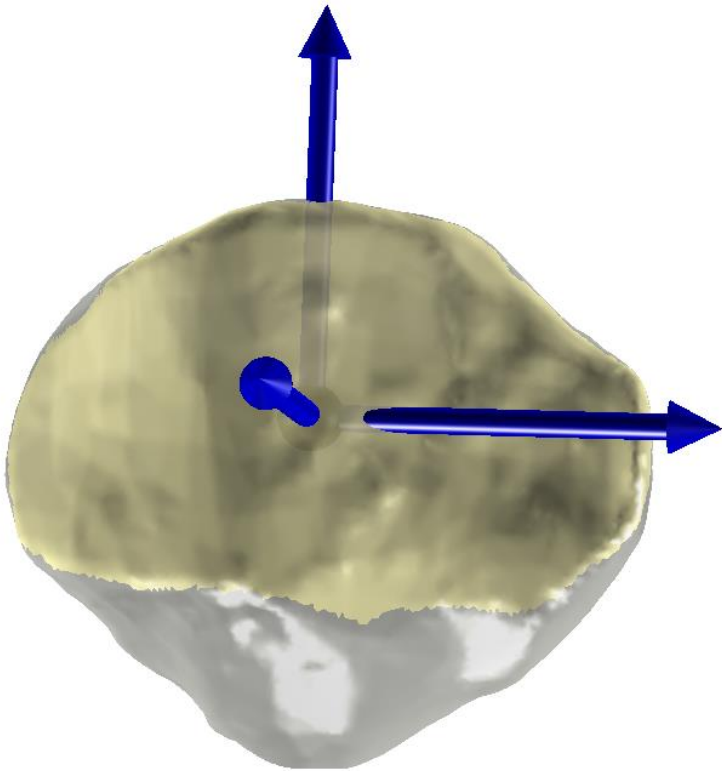


The same 3 ACSs constructed displayed on an unique reconstruction to see the variability of Miranda et Al. 2010

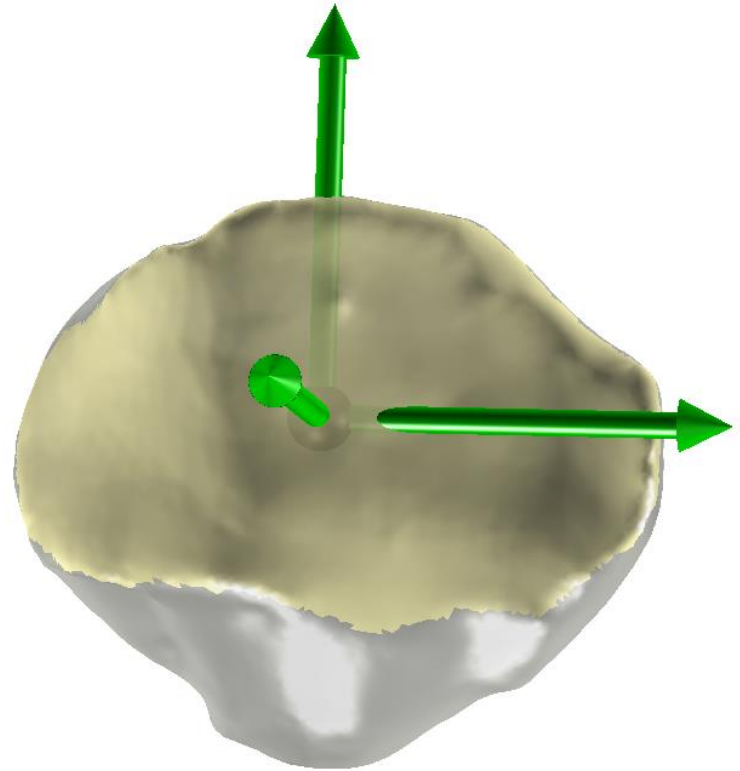


Differences between ACSs from the 3 different operators for patellar algorithms

ACS constructed from operator1 reconstruction with algorithm PIAAS.

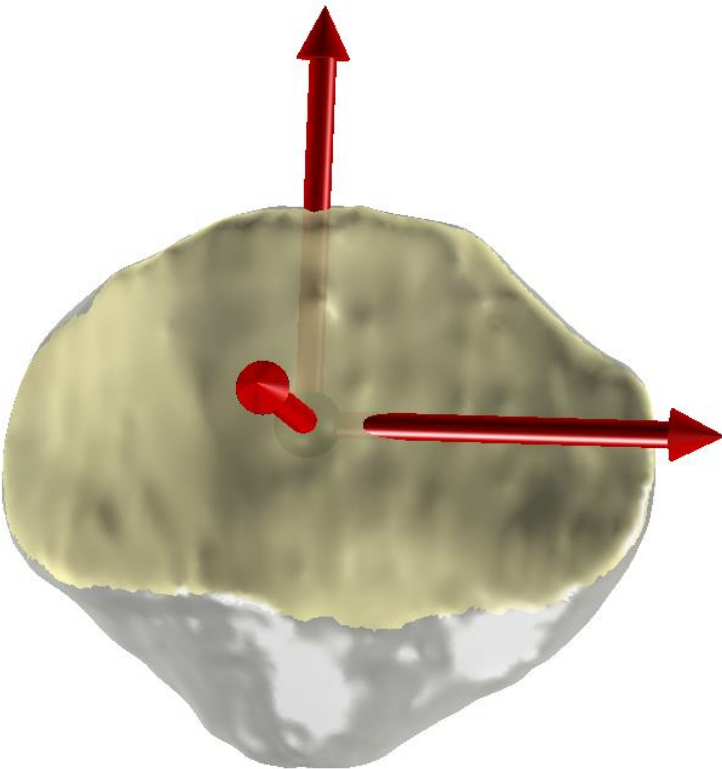


ACS constructed from operator2 reconstruction with algorithm PIAAS.

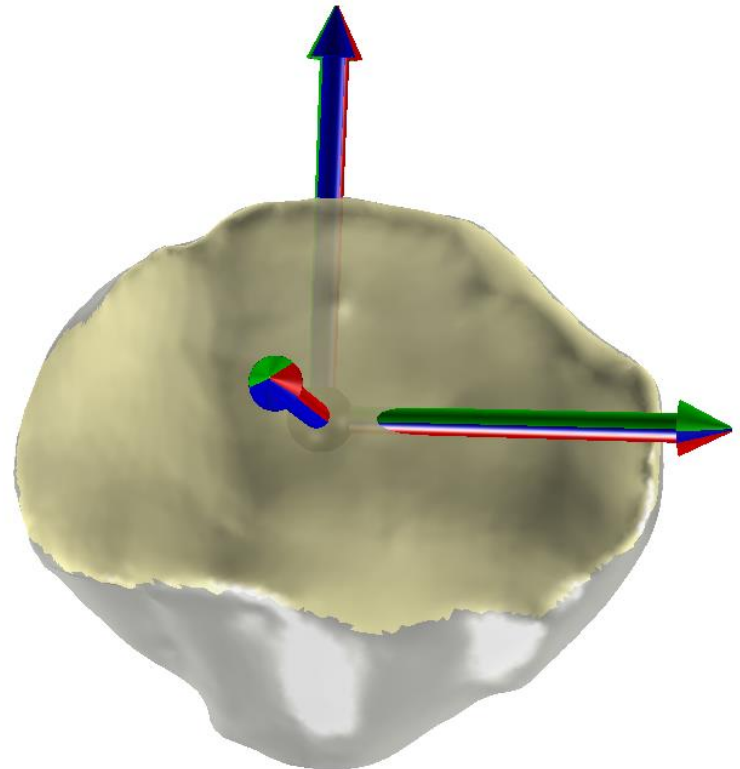


PIAAS best case

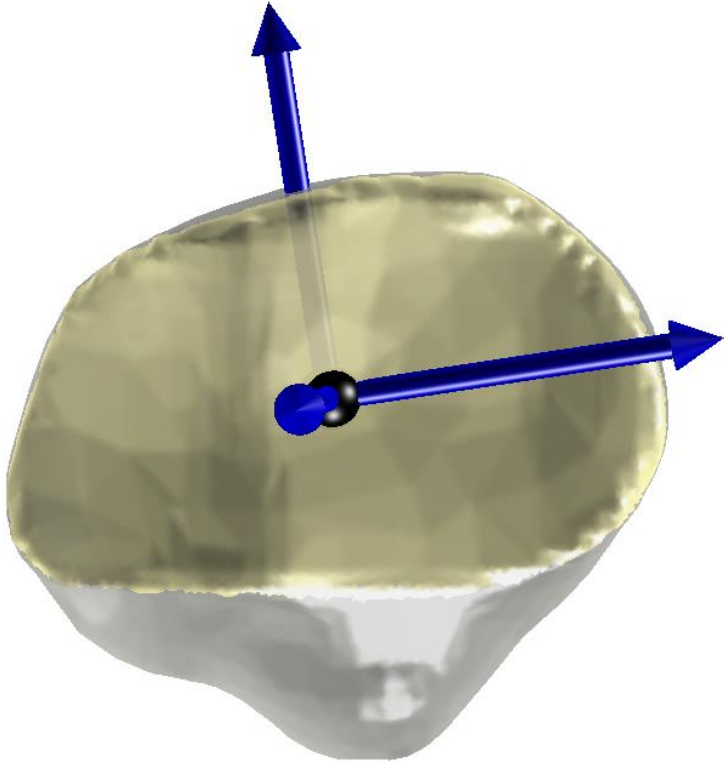
ACS constructed from operator3 reconstruction with algorithm PIAAS.



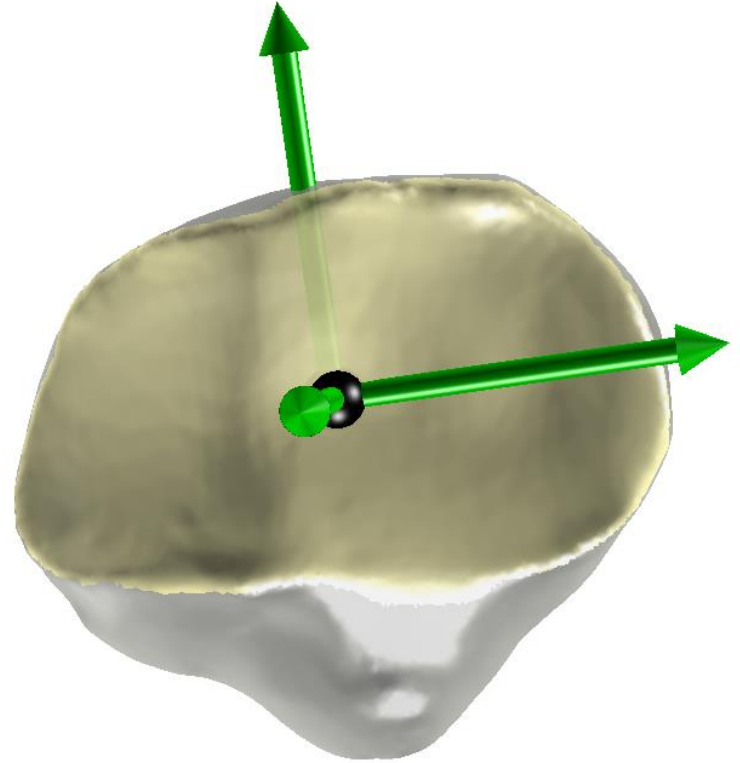
The same 3 ACSs constructed displayed on an unique reconstruction to see the variability of PIAAS



ACS constructed from operator1 reconstruction with algorithm PIAAS.

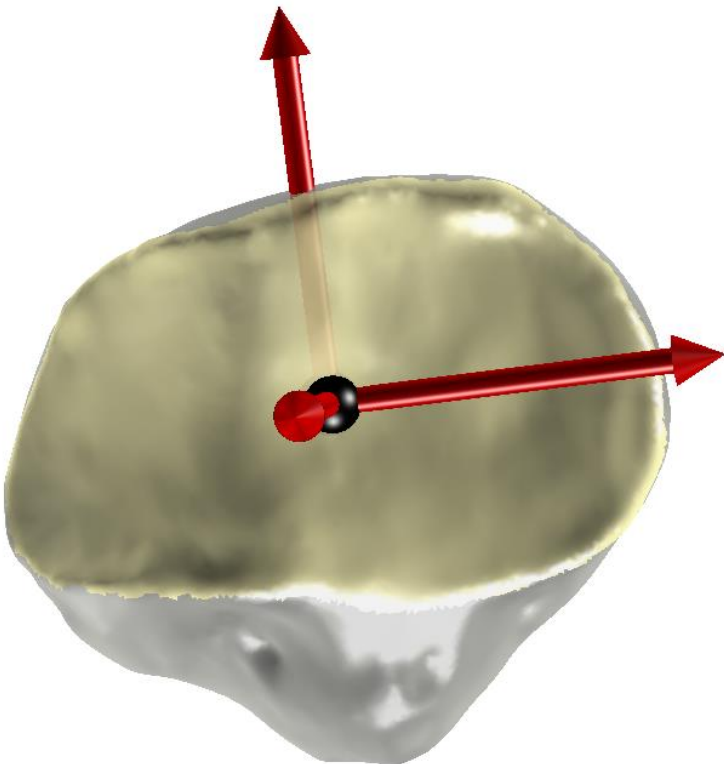


ACS constructed from operator2 reconstruction with algorithm PIAAS.

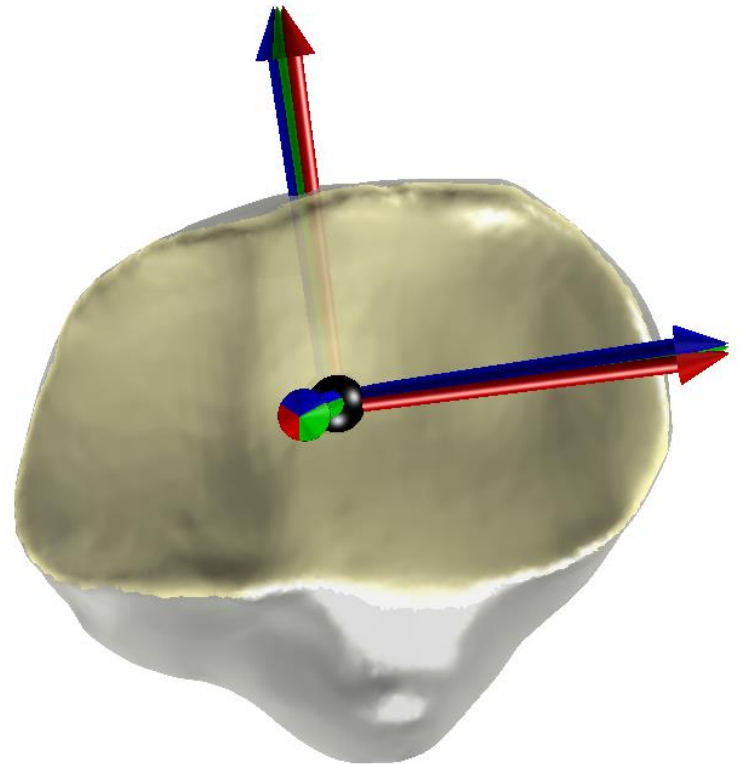


PIAAS median case

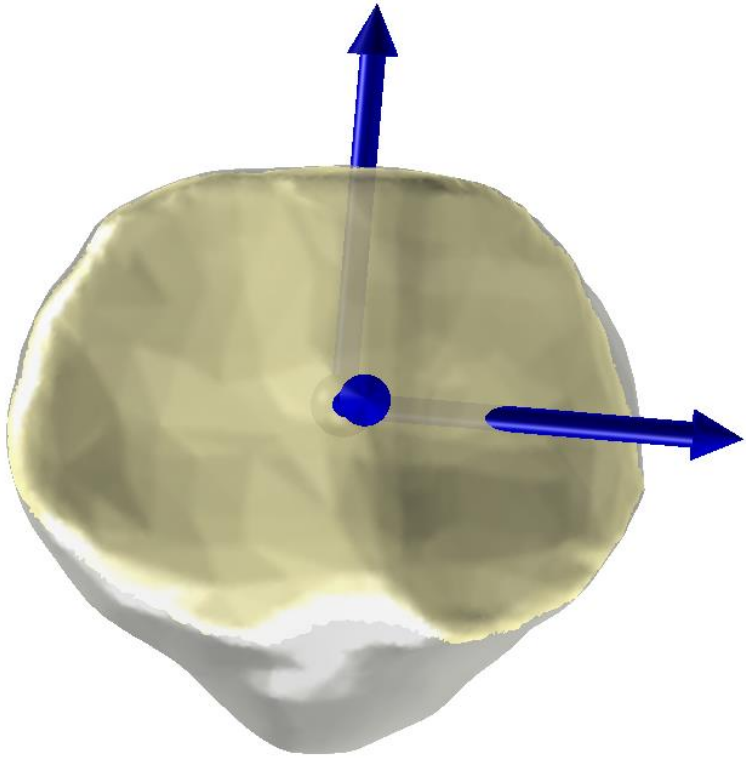
ACS constructed from operator3 reconstruction with algorithm PIAAS.



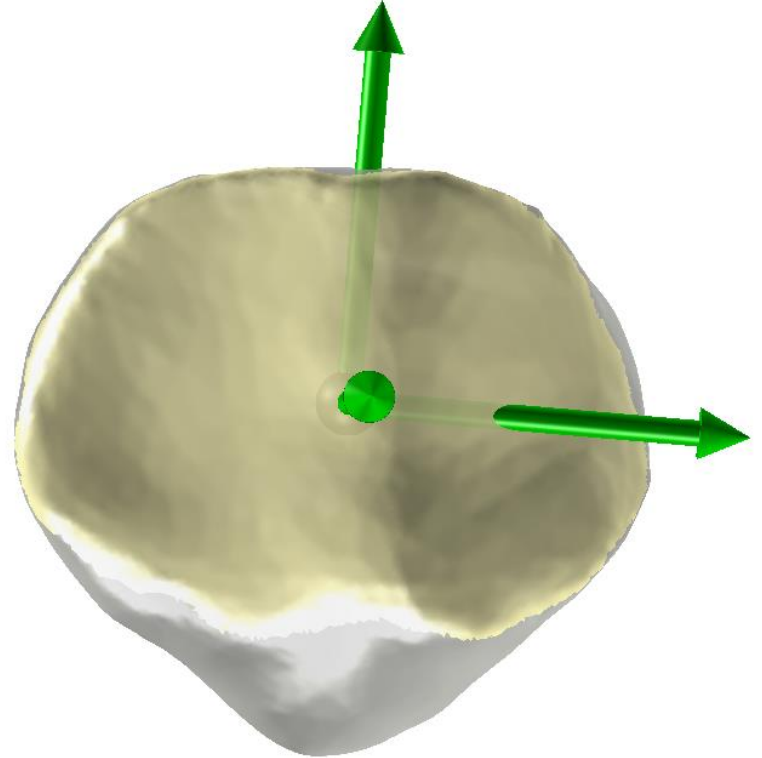
The same 3 ACSs constructed displayed on an unique reconstruction to see the variability of PIAAS



ACS constructed from operator1 reconstruction with algorithm PIAAS.

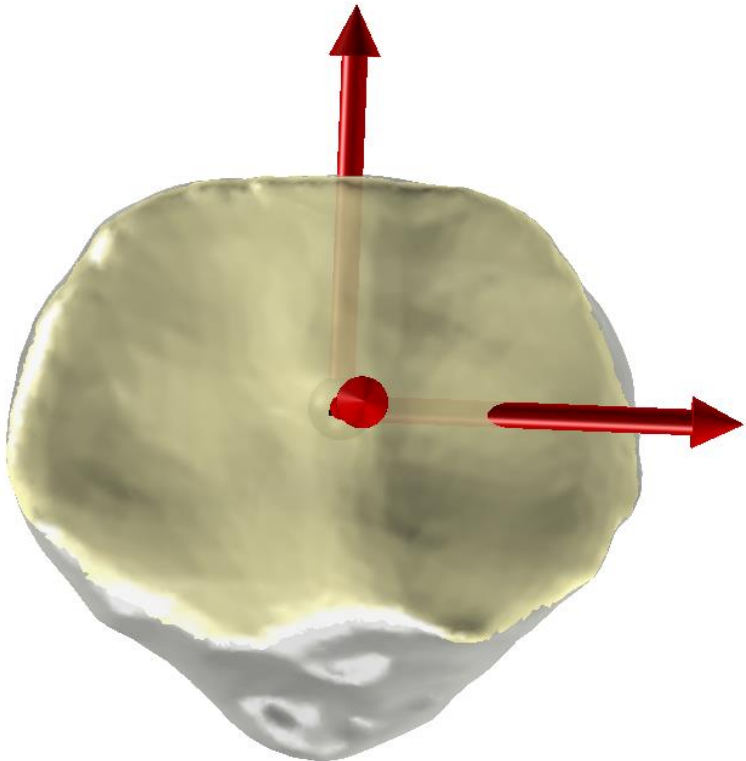


ACS constructed from operator2 reconstruction with algorithm PIAAS.

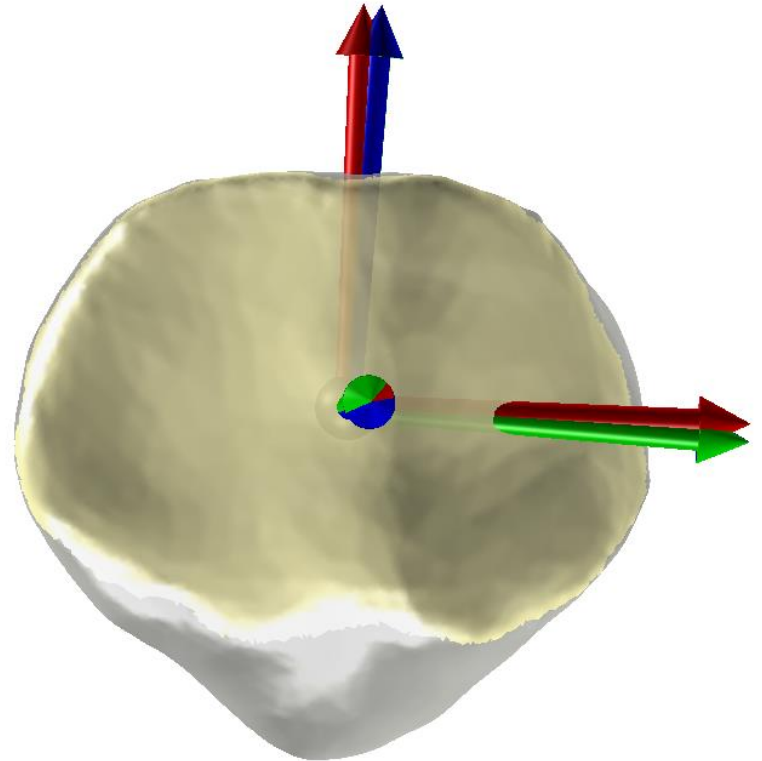


PIAAS worst case

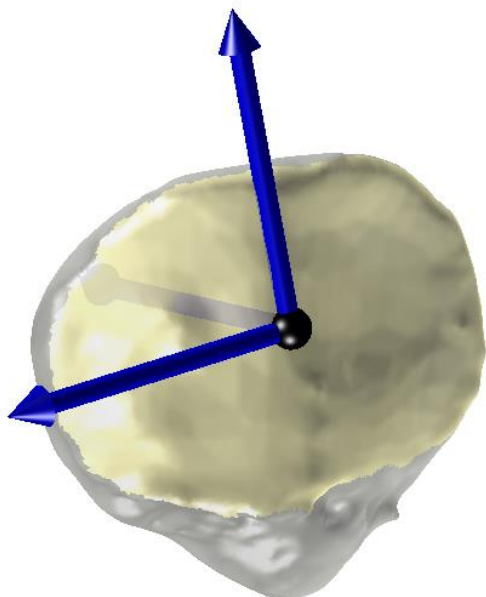
ACS constructed from operator3 reconstruction with algorithm PIAAS.



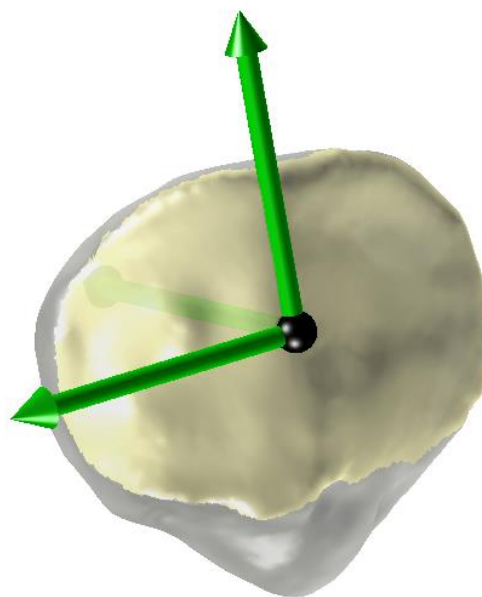
The same 3 ACSs constructed displayed on an unique reconstruction to see the variability of PIAAS



ACS constructed from operator1 reconstruction with algorithm RL.

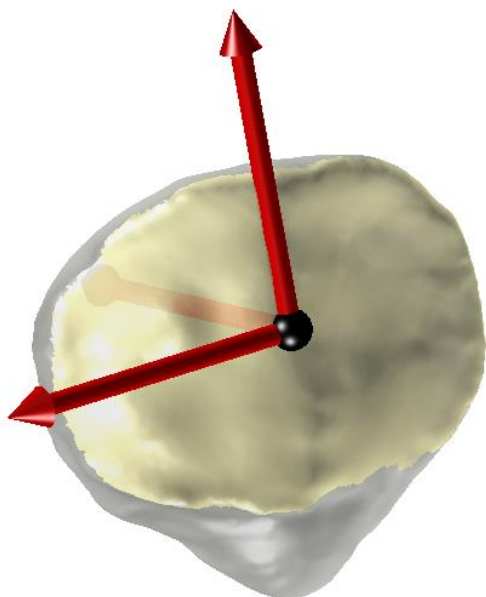


ACS constructed from operator2 reconstruction with algorithm RL.

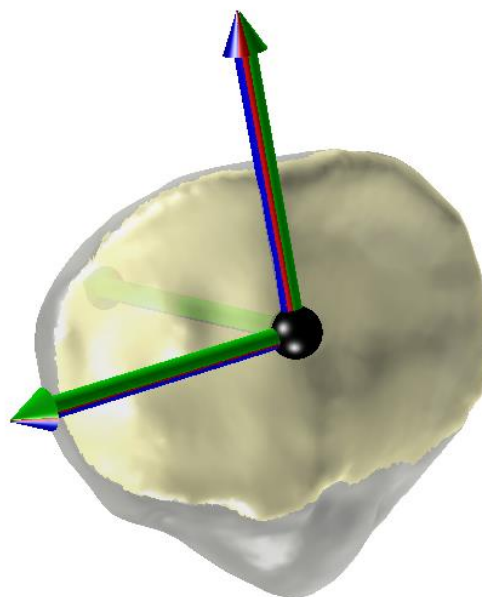


RL best case

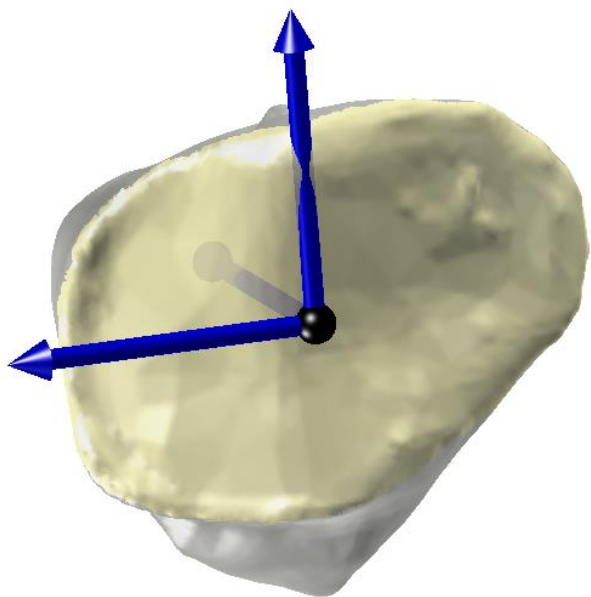
ACS constructed from operator3 reconstruction with algorithm RL.



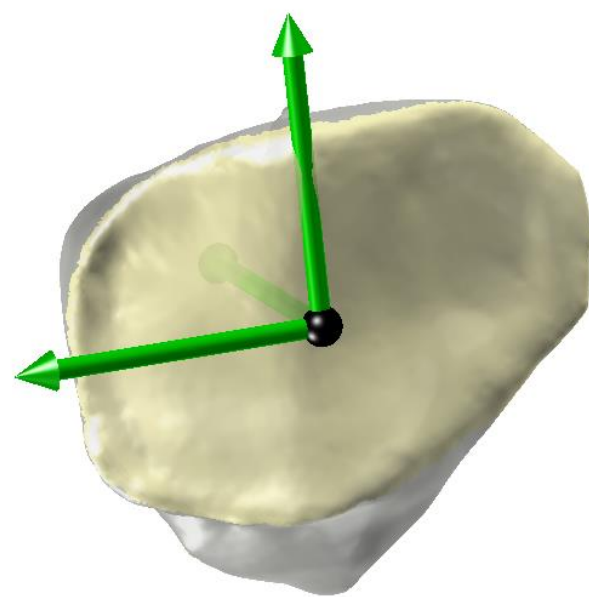
The same 3 ACSs constructed displayed on an unique reconstruction to see the variability of RL



ACS constructed from operator1 reconstruction with algorithm RL.

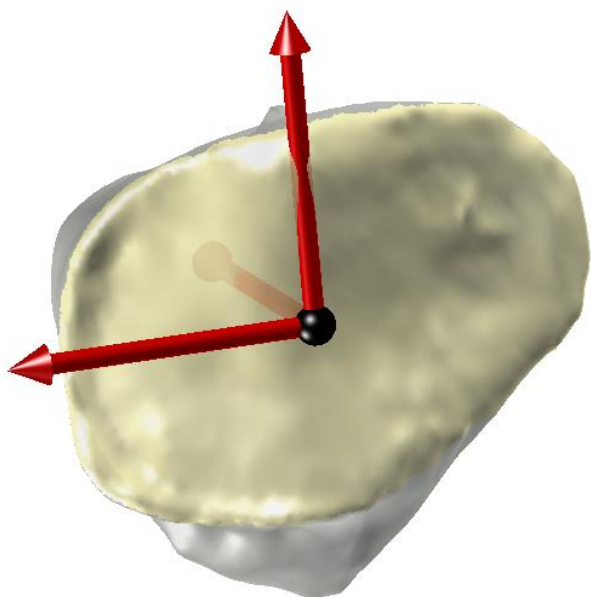


ACS constructed from operator2 reconstruction with algorithm RL.

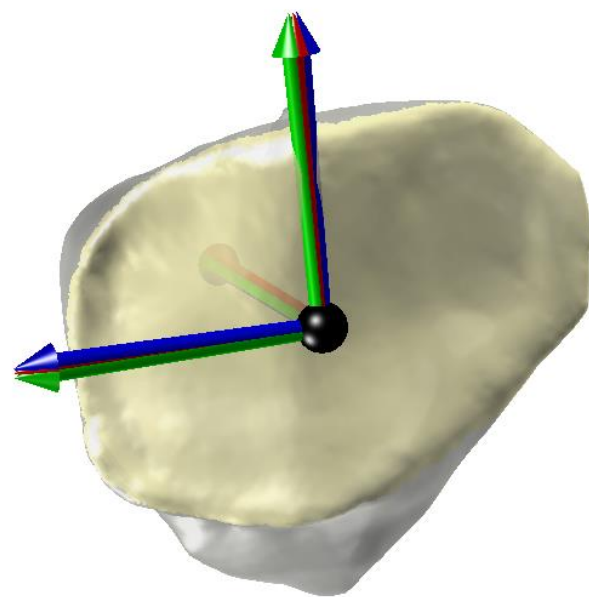


RL median case

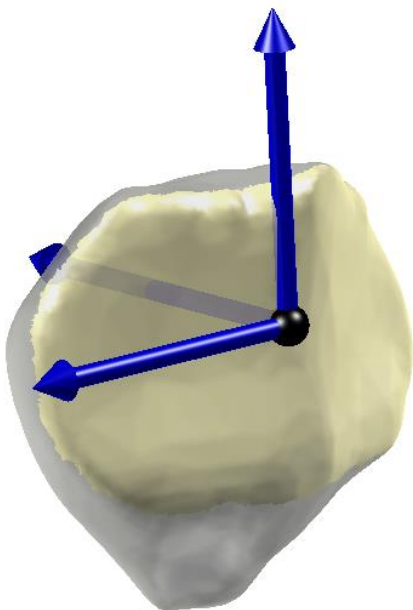
ACS constructed from operator3 reconstruction with algorithm RL.



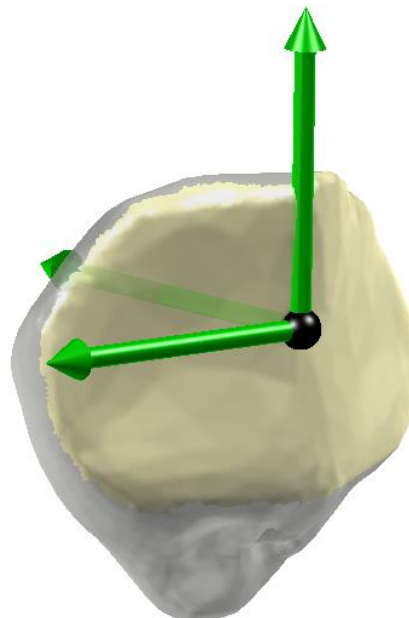
The same 3 ACSs constructed displayed on an unique reconstruction to see the variability of RL



ACS constructed from operator1 reconstruction with algorithm RL.

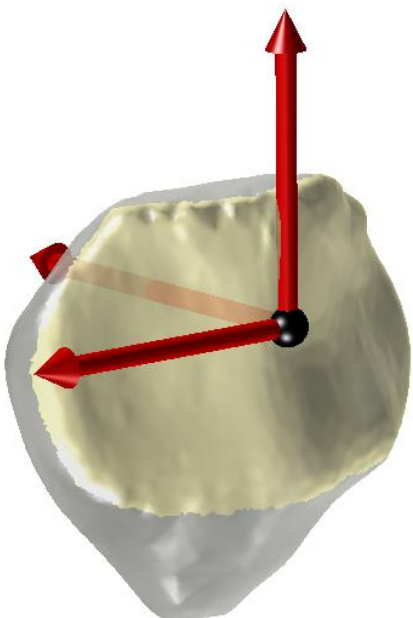


ACS constructed from operator2 reconstruction with algorithm RL.

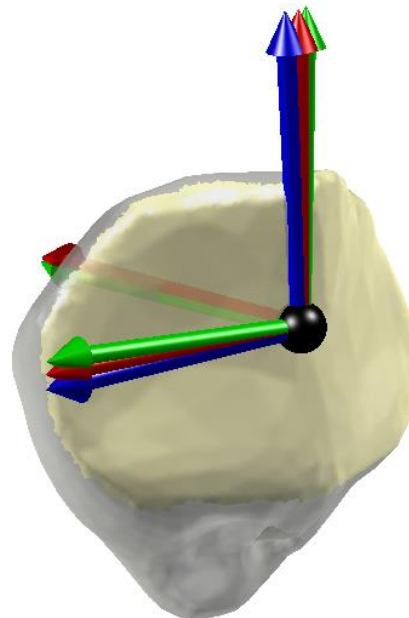


RL worst case

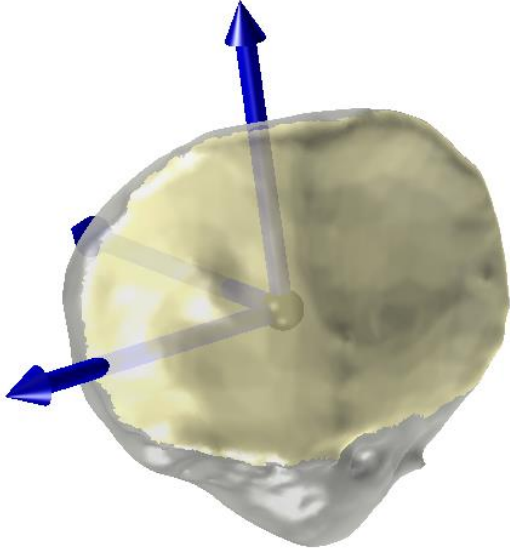
ACS constructed from operator3 reconstruction with algorithm RL.



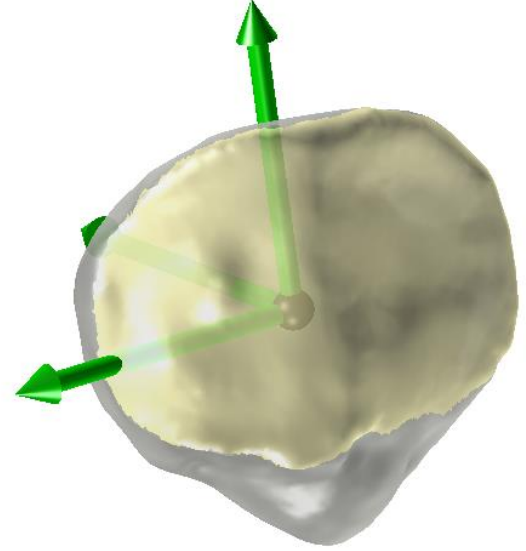
The same 3 ACSs constructed displayed on an unique reconstruction to see the variability of RL



ACS constructed from operator1 reconstruction with algorithm VR.

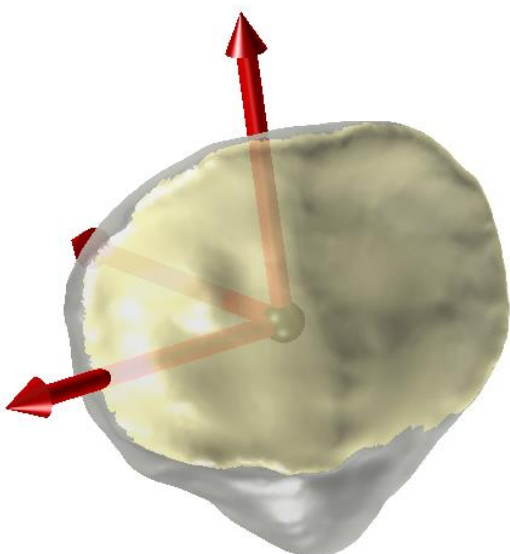


ACS constructed from operator2 reconstruction with algorithm VR.

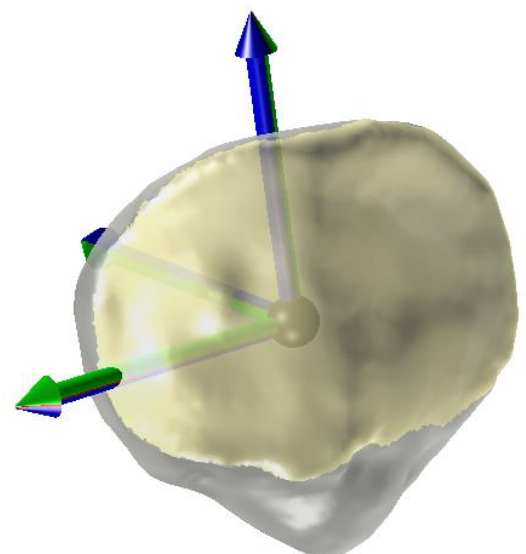


VR best case

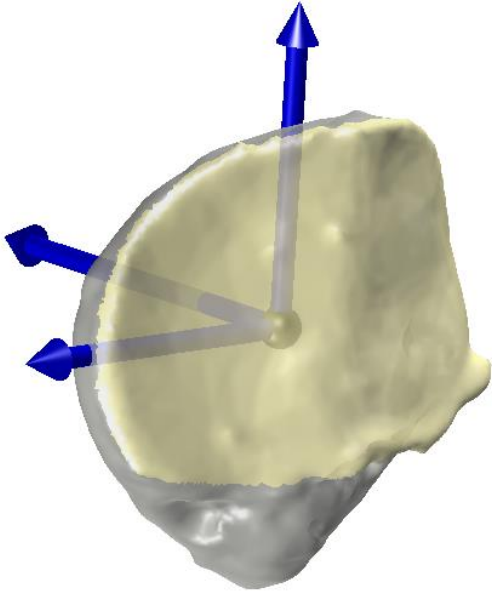
ACS constructed from operator3 reconstruction with algorithm VR.



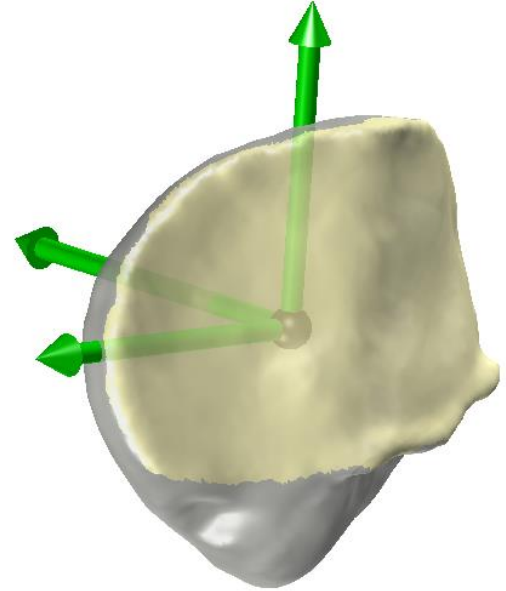
The same 3 ACSs constructed displayed on an unique reconstruction to see the variability of VR



ACS constructed from operator1 reconstruction with algorithm VR.

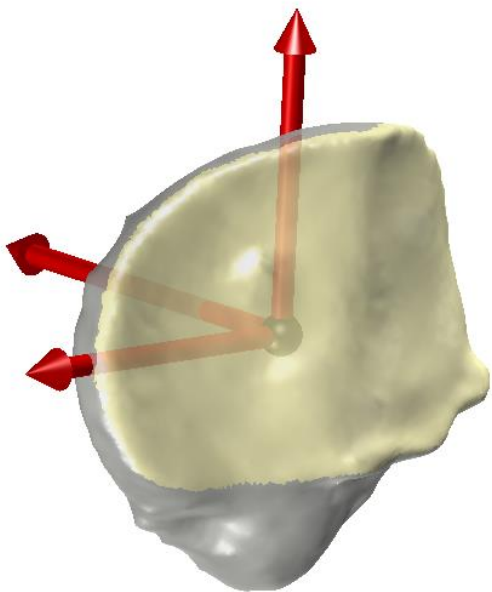


ACS constructed from operator2 reconstruction with algorithm VR.

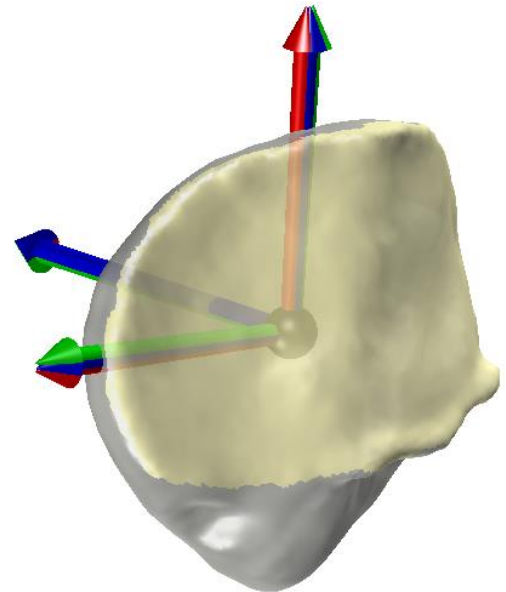


VR median case

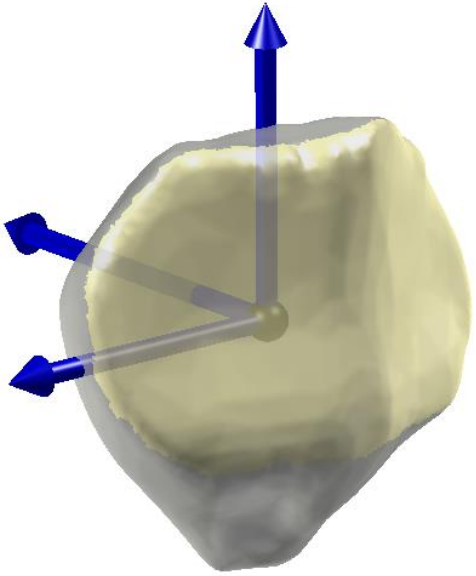
ACS constructed from operator3 reconstruction with algorithm VR.



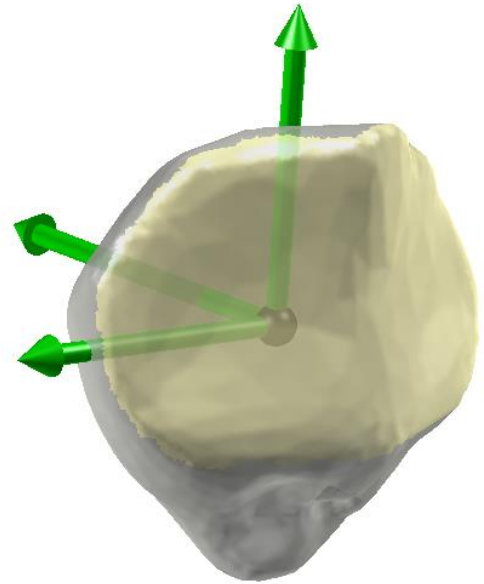
The same 3 ACSs constructed displayed on an unique reconstruction to see the variability of VR



ACS constructed from operator1 reconstruction with algorithm VR.

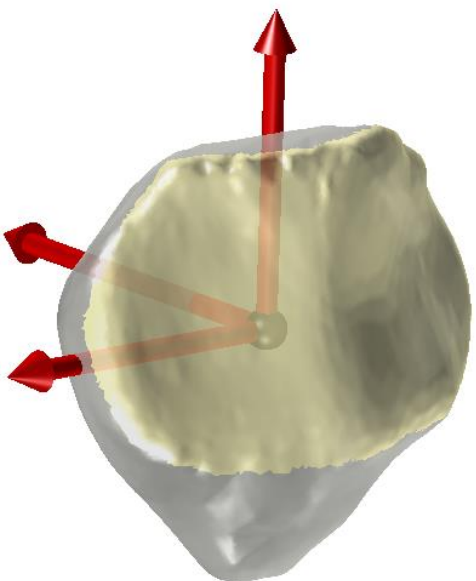


ACS constructed from operator2 reconstruction with algorithm VR.

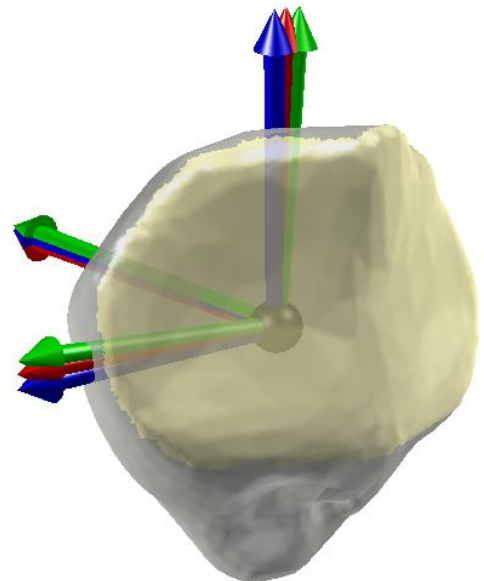


VR worst case

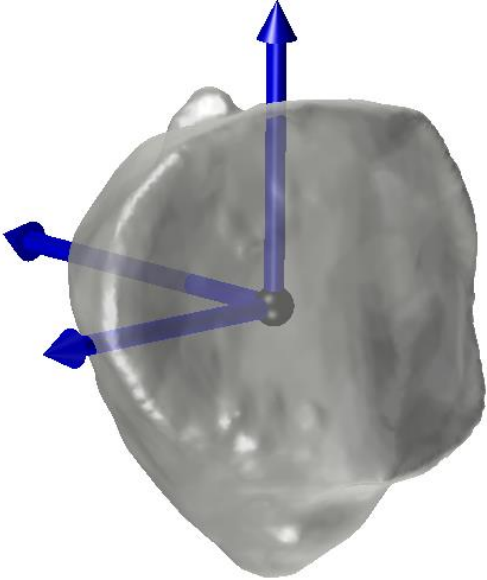
ACS constructed from operator3 reconstruction with algorithm VR.



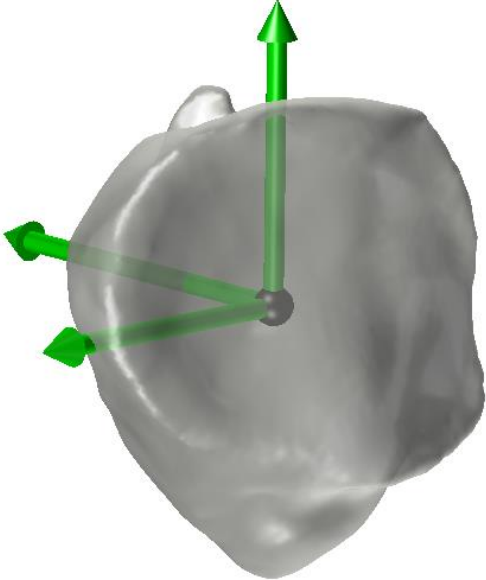
The same 3 ACSs constructed displayed on an unique reconstruction to see the variability of VR



ACS constructed from operator1 reconstruction with algorithm Rainbow et Al. 2013.

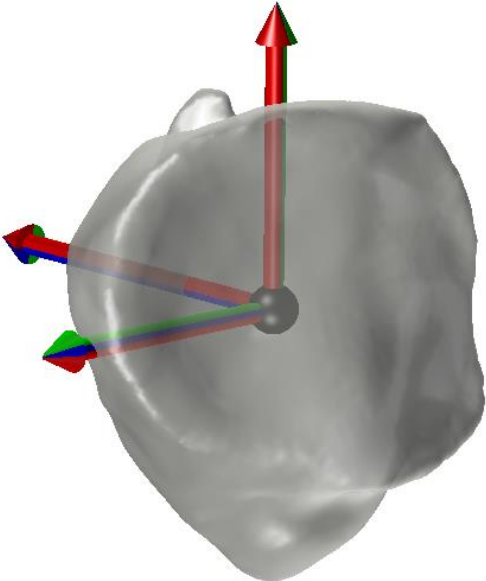
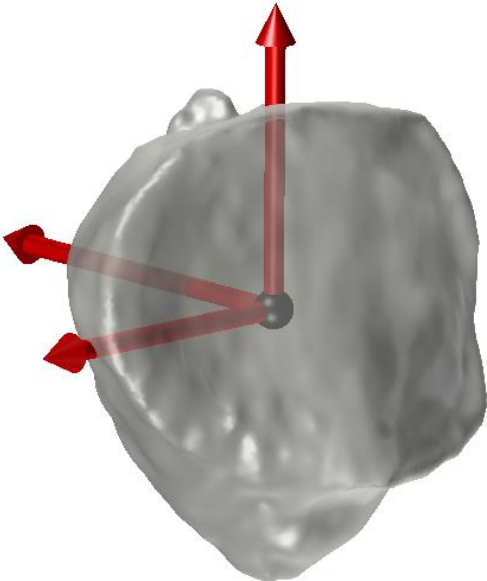


ACS constructed from operator2 reconstruction with algorithm Rainbow et Al. 2013.



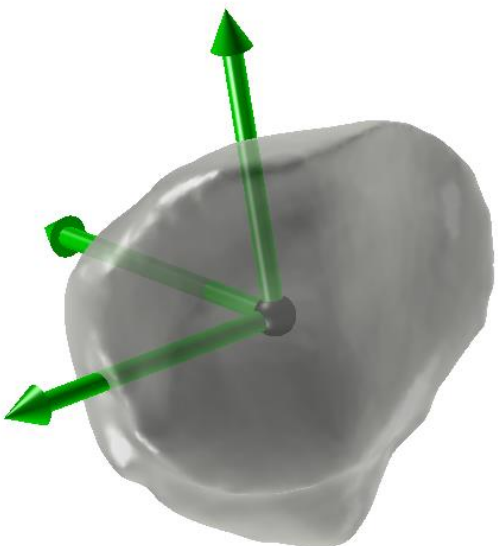
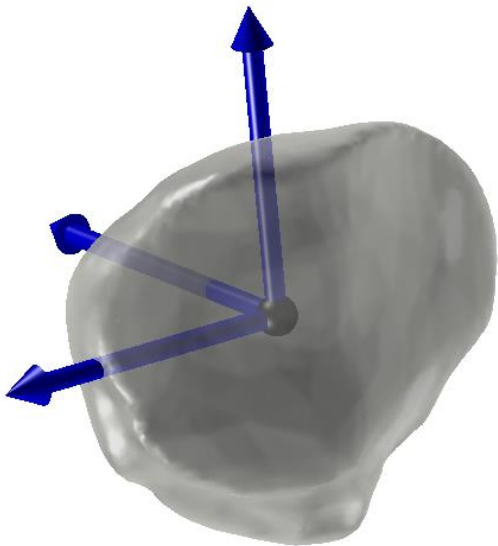
Rainbow et Al. 2013 best case

ACS constructed from operator3 reconstruction with algorithm Rainbow et Al. 2013The same 3 ACSs constructed displayed on an unique reconstruction to see the variability of Rainbow et Al. 2013



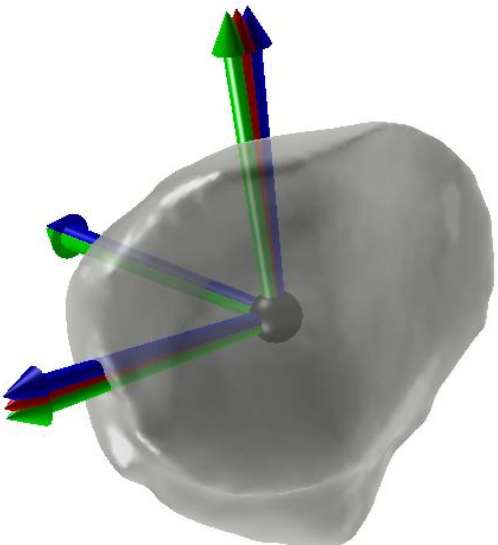
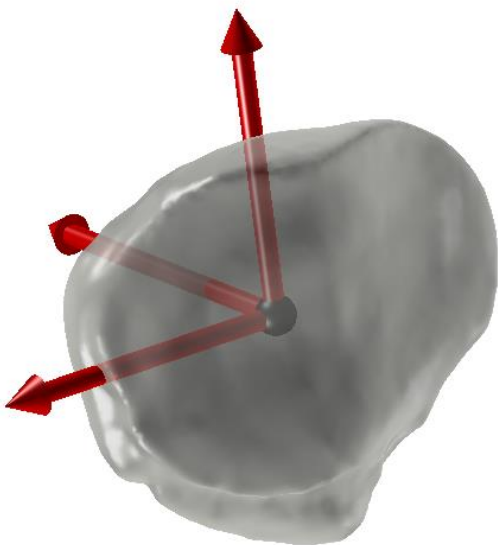
ACS constructed from operator1 reconstruction with algorithm Rainbow et Al. 2013.

ACS constructed from operator2 reconstruction with algorithm Rainbow et Al. 2013.

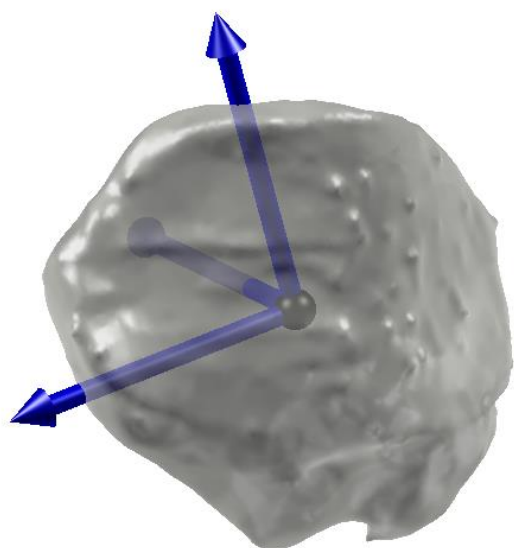


Rainbow et Al. 2013 median case

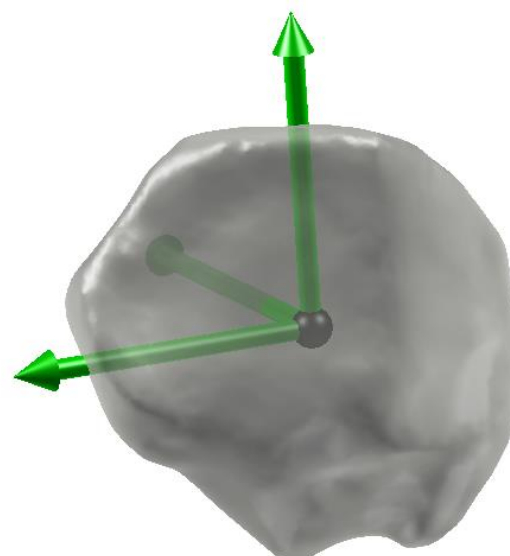
ACS constructed from operator3 reconstruction with algorithm Rainbow et Al. 2013The same 3 ACSs constructed displayed on an unique reconstruction to see the variability of Rainbow et Al. 2013



ACS constructed from operator1 reconstruction with algorithm Rainbow et Al. 2013.



ACS constructed from operator2 reconstruction with algorithm Rainbow et Al. 2013.



Rainbow et Al. 2013 worst case

ACS constructed from operator3 reconstruction with algorithm Rainbow et Al. 2013The same 3 ACSs constructed displayed on an unique reconstruction to see the variability of Rainbow et Al. 2013

