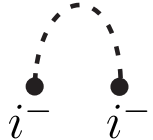
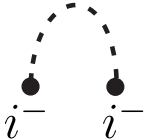
$\chi_{i^-}^{-1}\Big($ $i^-\Big) =$  $i^- \quad i^- + \frac{1}{2}\chi_{i^-}^{-1}\Big($ $i^- -$ $i^-\Big) =$  $i^- \quad i^- .$