



**Figure 2. Inactivating ATPase extends the range where  $\Delta A_{520 \text{ nm}}$  increases with absorbed photons (SL8 mutant line).**

**(A)** ECS following a train of 4 flashes (upward arrows). The ECS signal induced by the first 3 flashes is of equal amplitude (see vertical bar:  $\Delta\psi$  amplitude generated by the transfer of one electron per photosystem). The decay of the signal is very slow (low membrane conductivity).

**(B)** ECS increases linearly with light duration. The linear range is larger in the ATPase-less strain (solid lines) than in WT (dotted lines). The initial rates, calculated between 0 and 10 ms are identical.

**(C)** The initial rate of ECS increases linearly with light intensity. 10  $\mu\text{M}$  DCMU does not block charge separation in PSII, but DCMU and hydroxylamine (10 mM) do, and decrease the initial rate.