STARE/EISCAT velocity comparison in midnight-morning electron flows

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The off-orthogonal fluid approach (OOFA) was applied to estimate morning structured eastward electron flows using the STARE double-pulse and multi-pulse coding schemes. We found that, similarly to conditions with strong morning and strong/moderate evening electron flows (Uspensky et al., 2003, 2004), the STARE OOFA velocity predictions are reasonably good. A specific feature was found in conditions with low velocity electron flows of ~450 m/s or less, which one can meet around intervals with substorm auroral intensifications. We reveal a change of the STARE irregularity flow azimuth counterclockwise towards a direction with larger Farley-Buneman linear excitation increment.