Subvisual auroral structures to the north from discrete arcs above Spitsbergen

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On the base of all-sky aurora TV data recorded at PGI observatory in Barentzburg during 2000-2002 with using of the different image filtering methods, it was found that two types of subvisual auroral activity north from the main oval could exist:
1. Moving toward the north fine structures, generated by auroral intensifications at the south of TV camera field of view. Structure's speed of motion is about 200-500 miters per second at height 100 km. Probably, that structures represent electron precipitation, caused by aurora activity generated MHD-waves.
2. Narrow subvisual bands of luminosity, moving with a speed 100-200 meters per second from north to south 5-10 minutes before strong activity starts at the main auroral oval region. Those types of structures probably caused by solar wind irregularities and may stimulate breakup in the auroral zone.