

**ANALYSIS OF THE PROCESSES IN THE POLAR ATMOSPHERE WITH
USE OF THEIR FRACTAL CHARACTERISTICS AND SCALING OF THE
CORRELATION INTEGRAL ON MULTI-POSITION OPTICAL
OBSERVATIONS.**

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Multi-station multi-colour observations of atmospheric objects, e.g. aurora, polar stratospheric clouds, tropospheric clouds are used for analysis of high-latitude processes. The analysis approach uses self-organizing neural networks for automatic classification of the different objects. Important features in the characterisation procedure are the fractal characteristics, spatial frequencies, orientation of the objects and scaling of the correlation integral of the objects and dynamics. The features of each class are associated to the physical processes and the superiority of the multi-station approach for classification is discussed.