

## Towards quantification of auroral properties based on image data with high temporal resolution

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We are developing a technique to extract various information from aurora image data with temporal resolution of 1 second. The variations of aurora can be decomposed into a persistent component and residual fluctuations. We thus aim at quantifying various auroral properties by analyzing each of the components. For example, the motion of the persistent component would provide the information on the convection electric field. The properties of the convection can thus be obtained using optical flow analysis of this component. On the other hand, the residual fluctuations are mainly attributed to pulsating aurorae. It could therefore be possible to obtain the information on the frequency and amplitude of a pulsating aurora. We will report the current status and outlook.

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