ISS/JEM/SMILES L2処理運用システムのアルゴリズム進捗

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Status of ISS/JEM/SMILES operational L2 processing system’s algorithms

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ISS/JEM/SMILES is the first observation of stratospheric trace species at the 600 GHz band, by using extremely high sensitive 4K cooled SIS mixer in space. To fulfill the high sensitivity, the L2 operational data processing system is under development. We have been developing new algorithms, 1) forward model, 2) instrument models, 3) retrieval system, to achieve required precision, accuracy, and computational speed. This paper describes status of algorithm developments, such as a) frequency and geometrical grid design, b) new accurate and fast Voigt algorithm, c) O3 retrieval scheme and accuracy, and d) retrieval of trace and diurnal variable species.