Michael
Weimer
Institute of Environmental Physics, University of Bremen, Germany
Michael Hilker, Institute of Environmental Physics, University of Bremen, Germany
Blanca Fuentes Andrade, Institute of Environmental Physics, University of Bremen, Germany
Stefan Noël, Institute of Environmental Physics, University of Bremen, Germany
Max Reuter, Institute of Environmental Physics, University of Bremen, Germany
Michael Buchwitz, Institute of Environmental Physics, University of Bremen, Germany
Heinrich Bovensmann, Institute of Environmental Physics, University of Bremen, Germany
John P. Burrows, Institute of Environmental Physics, University of Bremen, Germany
Hartmut Bösch, Institute of Environmental Physics, University of Bremen, Germany
Oral
The Fast atmospheric traCe gAs retrievaL (FOCAL) algorithm is a radiative transfer code and retrieval scheme for the column-averaged dry-air mole fractions of carbon dioxide (XCO2) and other trace gases approximating multiple scattering by a single scattering layer whose altitude is part of the retrieved parameters. This makes FOCAL fast and suitable to be applied to large datasets and it has been applied successfully to operating satellite missions such as GOSAT, GOSAT-2 and the Orbiting Carbon Observatory (OCO) version 2. It will also become one of the operational algorithms for the future Anthropogenic CO2 Monitoring (CO2M) mission. Here, we show the setup of FOCAL when retrieving XCO2 from level 1b data by OCO-3 Snapshot Area Maps and show first estimates of the CO2 emissions for specific emission targets in Europe. In the context of preparing for CO2M, this activity is being carried out as part of the German national Integrated Greenhouse Gas Monitoring System (ITMS), for which an operational data assimilation system for greenhouse gases is being set up for Germany and which is one of Germany’s responses to the Paris Agreement from 2015.
Meeting homepage
IWGGMS-20 Workshop
Download to PDF