



A comprehensive study over the recent important reduction in SO₂ and NO₂ emissions from the power plants located in S-E Europe using space observations

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The aim of this study is to investigate the recent important reduction of atmospheric SO₂ and NO₂ emissions from several power plants located in S-E Europe during 2005-2014 using space observations. The study is focused over three large power plants which are located in Romania and Bulgaria: Turceni (44.66°N, 23.38°E), Rovinari (44.9°N, 23.15°E) and Stara Zagora (42.43°N, 25.65°E). The space observations used in this work are based on OMI (Ozone Monitoring Instrument) and GOME-2 (Global Ozone Monitoring Experiment Measurements) measurements. The results obtained using data from satellites are compared with in-situ observations and calculated emissions. The OMI and GOME-2 observed SO₂ and NO₂ content is well correlated with the in-situ data and calculated SO₂ and NO_x emissions. This study investigates the potential of using satellite observations as an instrument to check quality air as a standard procedure by governmental and non-governmental institutions. To this aim, we compared the emissions calculated from ground and space with the European Directive 2001/80/EC which refers to the limitation of emissions of certain pollutants by large combustion plants.