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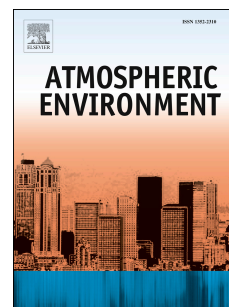
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OMI-measured SO₂ in a large-scale national energy industrial base and its effect on the capital city of Xinjiang, Northwest China

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HIGHLIGHTS

- OMI columnar SO₂ were used to assess the air quality in an energy industrial base.
- SO₂ emissions from energy industrial base are much higher than nearby Urumqi city.
- The energy industrial base markedly contributed to SO₂ contamination in Urumqi city.
- Higher emission from energy industrial base offsets city's emission control efforts.

ABSTRACT

Although considerable efforts have been made to improve air quality in Urumqi, the capital of Xinjiang-Uyghur Autonomous Region in northwestern China and one of the ten cities with worst air quality in China, this city is still experiencing heavy air pollution during the wintertime. The satellite remote sensing of air quality using Ozone Monitoring Instrument (OMI) measured data discerned an increasing trend of the planetary boundary layer (PBL) columns of sulfur dioxide (SO₂) in Midong national petrochemical and coal chemical industry base from 2005 to 2016, located in the northeast of Urumqi. The increasing trend of OMI columnar SO₂ in this area is in contrast to the widespread decreases of SO₂ emissions in eastern and southern China.

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