О восстановлении вертикального распределения двуокиси азота в атмосфере по многоугловым спектральным измерениям рассеянной солнечной радиации вблизи 450 нм

Хворостова А.Д.¹, Чуличков А.И.¹, Боровский А.Н.², Постыляков О.В.²

¹Московский государственный университет им. М.В. Ломоносова, Москва, РФ
²Институт физики атмосферы им. А.М. Обухова РАН, Москва, РФ

sv.nikitin@physics.msu.ru, achulichkov@gmail.com, alexander.n.borovski@gmail.com, oleg.postylyakov@gmail.com

Ключевые слова: двуокись азота, многоугловые измерения, дифференциальная спектроскопия, оптимальное оценивание.

Spectral measurements of the scattered solar radiation in the absorption band of nitrogen dioxide (NO2) вблизи 450 nm make it possible to estimate the content of impurities in the atmosphere. When performing measurements of radiation coming from several elevation angles (MAX DOAS), it is possible to estimate the vertical distribution of impurities from the earth's surface to the heights of several kilometers. The report proposes the use of reduction methods for solving the problem of estimating the vertical distribution of NO2 in the lower troposphere from remote sensing data. Data reduction consists in the choice of the transformation of the results of remote measurements, such that the result of the transformation gives the most accurate estimate of the parameters being studied. In addition to the accuracy of estimation, the theory of reduction controls the agreement of the model with the measurement results.

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On retrieval of vertical distribution of nitrogen dioxide in the atmosphere by MAX DOAS measurements near 450 nm

Khvorostova A.D.¹, Chulichkov A.I.¹, Borovski A.N.², Postylyakov O.V.²

¹M.V. Lomonosov Moscow State University, Moscow, Russia
²A.M. Obukhov Institute of Atmospheric Physics, Russian Academy of Science, Moscow, Russia

sv.nikitin@physics.msu.ru, achulichkov@gmail.com, alexander.n.borovski@gmail.com, oleg.postylyakov@gmail.com

Keywords: nitrogen dioxide, MAX DOAS technique, optimal estimation.

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