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New-particle formation events in a continental boundary layer: first results from the SATURN experiment

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Abstract. During the SATURN experiment, which took place from 27 May to 14 June 2002, new particle formation in the continental boundary layer was investigated. Simultaneous ground-based and tethered-balloon-borne measurements were performed, including meteorological parameters, particle number concentrations and size distributions, gaseous precursor concentrations and SODAR and LIDAR observations.

Newly formed particles were observed inside the residual layer, before the break-up process of the nocturnal inversion, and inside the mixing layer throughout the break-up of the nocturnal inversion and during the evolution of the planetary boundary layer.

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