

**Anthropogenic Aerosols over the Southern Baltic Sea** – Anita Lewandowska, Lucyna Falkowska  
Summary

Concentrations of ionic components of aerosols and gaseous components of air in the coastal zone of the Southern Baltic were determined. In aerosols over the seawater sulphates of marine origin were always found, however, they were not related to the marine salt. Their role as condensation nuclei in clouds is emphasized with the particular focus on scatter of solar radiation behind the atmosphere. In May 2003, in the atmosphere over Gdynia, no ammonium sulphate was detected and ammonium nitrate was found to be responsible for the reflection of the solar radiation. At the same time when aerosols over the Gulf of Gdańsk were poor with ammonium nitrate the backscatter of light was made essentially by ammonium sulphate. Because of high Rh of the air over both stations aerosol was likely to be supersaturated with water vapor. Both ammonium salts were, in turn, observed over Sopot in August with the  $\text{NH}_4\text{NO}_3 / (\text{NH}_4)_2\text{SO}_4$  ratio equal to 1:3. The relative air humidity was above crystallization point. The aerosol was wet and considered to be responsible for the backscattering of the solar radiation.