DRY DEPOSITION OF PAHS ON SNOW SURFACE

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Dry deposition of PAHs in Ankara was, investigated using a sampling methodology developed in our laboratory. Snow surface was used as surrogate surface for dry deposition. Ankara. which is a typical urban city was divided into 56 4km 4 km grids. Surface snow samples were collected from all grids right after a major snow event and 15 days later. There was no wet precipitation during two collection periods. Difference in concentrations of fresh and 15 days aged surface snow was due to dry deposition. An apparatus developed in our laboratory was used for sampling. Analytical methodologies for the pre-concentration and analysis of samples were optimized for snow samples. Gas Chromatography-Mass Spectrometry was used as analytical tool. Significant increase in concentrations of PAHs was observed at the end of 15 days due to dry deposition on snow surface. It was possible to quantify 16 priority PAHs in snow samples. Snow is thus could be used as a surrogate surface for dry deposition of PAHs. Pollution maps were drawn for each PAH by Map Info GIS software. The major polluted zones are localities where low income families live and low quality coal used for domestic heating. Use of PAH ratios as markers of specific sources together with distribution maps indicated coal combustion and traffic emissions as the major sources.

Key words: dry deposition, PAHs, snow.