

MULTI-CRITERIA ANALYSIS OF AIR POLLUTION IN THE URBAN ENVIRONMENT NEAR COPPER SMELTER

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Abstract: The aim of this study was to examine the level of air pollution around copper smelter and to identify locations with highest content of pollutants' concentration in the air. The study was conducted in the period 2014-2018. in the city of Bor (Serbia) at four different locations. The measuring stations were located in the urban part of the city in close vicinity of the copper smelter. During this period, the concentration of sulfur dioxide (SO₂) and suspended PM₁₀ particles were monitored, as well as heavy metals from suspended PM₁₀ particles such as: lead (Pb), cadmium (Cd), nickel (Ni) and arsenic (As). The obtained values were compared with the limit values set by European Commission. The multi-criteria PROMETHEE method was used in order to rank locations according to the level of pollution, based on the set parameters. In addition, the GAIA plane was used to visualize the areas in the city of Bor with the highest air pollution.

Keywords: air pollution, suspended particles PM₁₀, heavy metals, SO₂