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URBAN AIR POLLUTION. A CASE STUDY: MONITORING THE NO_x, NH₃ SO₂ AND H₂S INDICATORS FROM CLUJ-NAPOCA AREA

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Abstract: In present, air pollution become one of the most critical causes of health problems faced by the population. Our study aims to monitor the NO_x, NH₃ SO₂ and H₂S indicators in one of the most populated districts of Cluj-Napoca town. Weekly measurements were carried out with the mobile ppbRAE 3000 equipment. Daily averages, monthly averages and averages for the whole experimental period were recorded and plotted for all four indicators monitored. During the period March - May 2023. The results of the mentioned monitoring show that there were no exceedances of limits allowed for any of the studied indicators, according to present regulations regarding the air quality.

• Introduction

Air pollution has recently become one of the most critical causes of health problems faced by the population. As an important component of environmental quality monitoring, especially in areas with heavy traffic and concentrate population, this study aims to monitor the NO_x, NH₃ SO₂ and H₂S indicators in the Mănăştur District, Cluj-Napoca town.

• Material and method

Weekly measurements were carried out on three days in four repetitions over three months from March to May with the mobile ppbRAE 3000 equipment. Daily averages, monthly averages and averages for the whole experimental period were recorded and plotted for all four indicators monitored.

• Results and discussions

During the March - May 2023, the average nitrogen oxides concentration was of 240 mg/cm³ and the average sulphur dioxide concentration was 490 mg/cm³.

During the same 3 period, the average concentration of NH₃ was 150 mg/cm³ and the average concentration of H₂S was 45 mg/cm³.

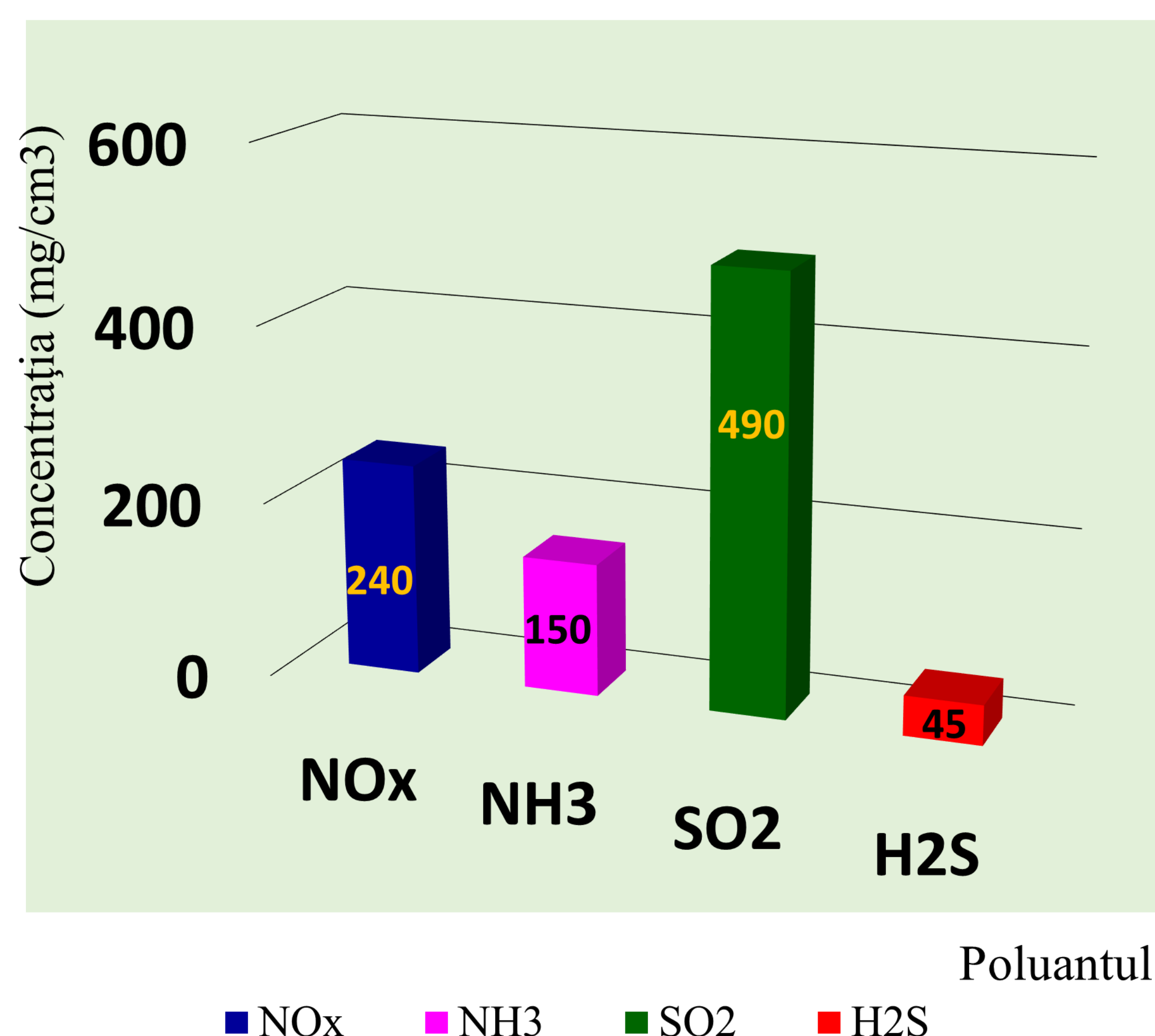


Figure 1. The means of NO_x, NH₃ SO₂ and H₂S (mg/cm³) content in environmental air from Mănăştur District of Cluj - Napoca, during March - May 2023

• Conclusions

From the results obtained for the entire period, it was concluded that in the Mănăştur District, Cluj-Napoca during the period March - May 2023, there were no exceedances of limits allowed for any of the studied indicators, according to Law 104/15.06.2011 regarding the air quality.