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Human Health Risks Assessment of Particulate Air Pollution in Romania

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Abstract : The particulate matter (PM) smaller than 2.5 μm are less studied due to the limited availability of $PM_{2.5}$, and less information is available on the health effects attributable to PM_{10} in Central-Eastern Europe. The objective of the current study was to assess the human health risk and characterize the spatial and temporal variation of $PM_{2.5}$ and PM_{10} in eight Romanian regions between the 2009-2018 and. The PM concentrations showed high variability over time and spatial distribution. The highest concentration was detected in the Bucharest region in the winter period, and the lowest was detected in West. The relative risk caused by the PM_{10} for all-cause mortality varied between 1.017 (B) and 1.025 (W), with an average 1.020. The results demonstrate a positive relative risk of cardiopulmonary and lung cancer disease due to exposure to $PM_{2.5}$ on the national average 1.26 (± 0.023) and 1.42 (± 0.037), respectively.

Keywords : $PM_{2.5}$, PM_{10}, relative risk, health effect
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