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## **Extended Abstracts**

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**Mineral and thermal water**

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**Hydrogeochemical characteristics of mineral and thermal waters**

title: **Natural radionuclides and trace metals in thermal  
springs, Al-Lith Region, Saudi Arabia**

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Some of the thermal water springs are widely popular for medical therapy, tourism, recreation and rehabilitation activities. Studies of geothermal resources in the Kingdom of Saudi Arabia started in 1980. Four thermal springs were identified in Al-Lith area (Ayn Al-Harra, Ayn Bani-Hilal, Ayn Markub and Ayn Darakah). The main aim of this study is to shed more light on the radio-ecological and chemical characterization of thermal springs in Al-Lith region, Saudi Arabia. Water and sediment samples were collected from the four thermal spring. Natural radionuclides (U, Th, K,  $^{210}\text{Po}$  and Ra isotopes) concentration were determined in water samples using ICP-MS and, alpha- particle and liquid scintillation spectrometers. Chemical properties (pH, EC, total alkalinity, turbidity, bicarbonate, total hardness, major anion and major cations) of water samples were determined using standard methods. The correlation between natural radionuclides and chemical properties of water were discussed.



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