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# Recent advancements in X-ray CT tomography as a geosciences tool for coalbed methane exploration

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The quantification of the volume and spatial disposition of pores, fractures or cleats and minerals in coals is a primary and fundamental requirement for CBM reservoir evaluation. Coal as a CBM reservoir is a complex polymeric material with complex porous structures which are important for flow pathway that determine the permeability and producibility of coalbed methane. The CT scan computed tomography is a non-destructive technique that can provide quantitative detection and visualization of interior structure of rocks in 3D within opaque objects. This paper will inform several applications illustrate the possibilities, specific advantages and limitations of CT for non-destructive coal characterization in describing the fracture and cleat characteristics including fracture-size patterns, network geometries in coal which is very useful in quantified and 3D visualization of the spatial disposition of minerals, pores and fractures in coals. As with every technique there are always some restrictions that can happen, however the CT scan technique proved to be an emerging non-destructive analysis which gives promising results in CBM exploration activities.

## Biography

Ahmad Helman Hamdani received his Ph.D. in Geology with the topic of CBM from University Padjadjaran in 2013. He has experience of 20 years in coal and coalbed methane exploration Indonesia. He has also published his research in reputed journals.

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