

ΓΕΝΙΚΟ ΣΕΜΙΝΑΡΙΟ ΤΜΗΜΑΤΟΣ ΦΥΣΙΚΗΣ

PHYSICS COLLOQUIUM

Thursday, 12 December 2013

17:00 -18:00

3rd Floor Seminar Room

“Physics in search of oil and gas”

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Abstract

Oil and gas are natural resources that are hidden in various deposits in the earth crust. The physical properties of oil and gas influence the material properties of the entire rock. The search for oil and gas uses different physical measurements to determine the spatial distribution of these materials with high measurement accuracy and good spatial resolution. This presentation offers a historic review of the evolution of such measurement methods, followed by a comprehensive discussion of present measurement technologies and their impact on the oil and gas production. Directional drilling directly benefits from real-time measurements that permit to steer a horizontal well into target zones full of oil and gas up to 10 km away. Future developments foresee environmentally more responsible intervention, such as the sequestering and storage of carbon dioxide to reduce atmospheric warming.