Title of Article : *Optimal Antenna configurations for digital oilfield implementation*

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Abstract: Antennas play a very pivotal role in the development and advancement of digital oil fields. They provide the last mile communication link to the field locations and thus must be properly sized to ensure the link availability and reliability. There are different types of antennas currently being deployed with each having different impacts on the communication link performance. This paper discusses typical antenna configurations for implementing last mile communications to the field in digital oilfield applications. It analyzes the characteristic of each configuration, the impact these different configurations have on data security, deployment speed and communication range and presents an optimal configuration that improves data security, deployment speed and communication range.