

# **Technological, Socio-Economic and Ecological Aspects of Space Weather Impacts on the Normal Operation of Oil and Gas Pipeline Systems and Reliability of Electric Power Supply Grids in Azerbaijan and the South Energy Corridor Region**

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In this paper we describe the effects of changes of heliogeophysical conditions on oil and gas pipelines and power supply systems and discuss the problem to assist pipeline and power grid operators to manage the potential risks associated with space weather events. Perspectives of studies of space weather effects on operational conditions and ecology of very long pipelines and power distribution systems in Azerbaijan and the South Energy Corridor Region are outlined. Main results of complex investigations on possible impact of geomagnetic disturbances of various strengths on the normal operation of middle-latitude-located electric power supply grids are described. Daily data on power failures and breakdowns that occurred in Azerbaijan and Baku capital city with surrounded big urban area in years of ascending, maximum and descending phases of solar 11-year activity cycle 23 were investigated and analyzed. It is concluded that space weather changes can play a significant role in ground-based power and pipeline system behavior even in middle latitudes depending on the state of heliogeophysical conditions.