

# **Airborne laser IR thermographic system for detecting gas leaks from underground pipelines**

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## **Abstract**

An airborne IR system intended for remote gas detection is described. The system involves three channels of which one is active and two are passive. The active channel includes a 15 mW tunable laser diode operating at 1650 nm and illuminating the ground surface with 1 ms pulses. The system sensitivity by the laser channel is about 100 ppm\*m at 100 m (by methane). The two passive channels allow visualizing the ground surface in both the visual and mid-IR wavelength. The system has passed on-flight testing in cooperation with some Russian gas transportation companies.

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