Monitoring of Fatigue Safety of Gas Pipelines Weld Joints

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Abstract. In the actual operation of pipeline systems and pressure vessels, certain sections or junctions experience operating conditions different from those considered during the design stage. These structural locations are typically booster pump stations or compressor stations, where dynamic effects contribute to the pressure loading of piping systems. The most heavily loaded sections are the welded joints. Fatigue properties were measured on specimens taken from the original welded joints of pipelines. Combined with long-term monitoring of pipeline loading at the compressor station, this data allows for an accurate estimation of the real fatigue strength and lifetime of welded pipelines.