

# Simulation and Suppression of the Rebar Multiple Reflection in Tunnel Lining

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The main purpose of GPR detection in the subway shield tunnel is to detect the thickness of the grouting layer behind the tunnel lining. But the rebar in the concrete lining will result in strong radar reflection and multiple reflection signals, and they will interfere with even overwhelm the object signal from the interface between the grouting layer and soil (shown in Fig 1). Numerical simulation was done to investigate the influence of the rebar on the GPR profile.