SHOCK WAVE ATTENUATION IN A ROUGH-WALLED TUNNEL

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A 50 kg TNT charge was detonated outside a 40 m long blasted tunnel with an area of 16 m2 . A 1:10 scale model of the tunnel was built and efforts were made to scale the wall roughness as accurate as possible.
The full scale test was repeated in the model. The agreement between the pressure-time histories from the two tests was good. Several other tests were performed in the model with smaller and bigger charges at different points in the tunnel and its surrounding. From the results predictions can be made for full scale detonations. Tests were also performed in a simplified, smooth-walled model with, at large, the same geometry, why the effect of the wall roughness can be estimated.