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## Dependence of transverse relaxation time $T_2$ on the flow rate of fluid in porous medium

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### Abstract

To study the structure of porous media and various processes in these porous media there is commonly used the method of nuclear magnetic resonance (NMR). If the external pressure gradient is applied to the porous sample then in the sample there occurs the movement of the fluid filling the medium, which leads to an additional contribution to the decay of the NMR signal and changing the relaxation time distribution  $T_2$ . In this paper, an expression has been obtained that defines the dependence of the transverse relaxation time of liquid contained in a porous medium on the flow rate. The experimental verification of this expression was performed. It is shown that at low flow rates the transverse relaxation rate is proportional to the flow rate of the liquid.