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Application of Ronchi method for visualization of a turbulent mixing zone in shock tube experiments

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Usually, to visualize a turbulent mixing zone (TMZ) on the interface of two gases in experiments on shock tubes [1], is applied a shadow method. In experiments with gas explosive mixtures (GEM) [2] there are difficulties of TMZ visualization connected with heterogeneity of stream in the area adjoining to interface between detonation products (DP) of GEM both air, and self-luminescence of DP. The presented results of experiments illustrate opportunities of application of Ronchi method [3] for flow visualization in a similar shock tubes.

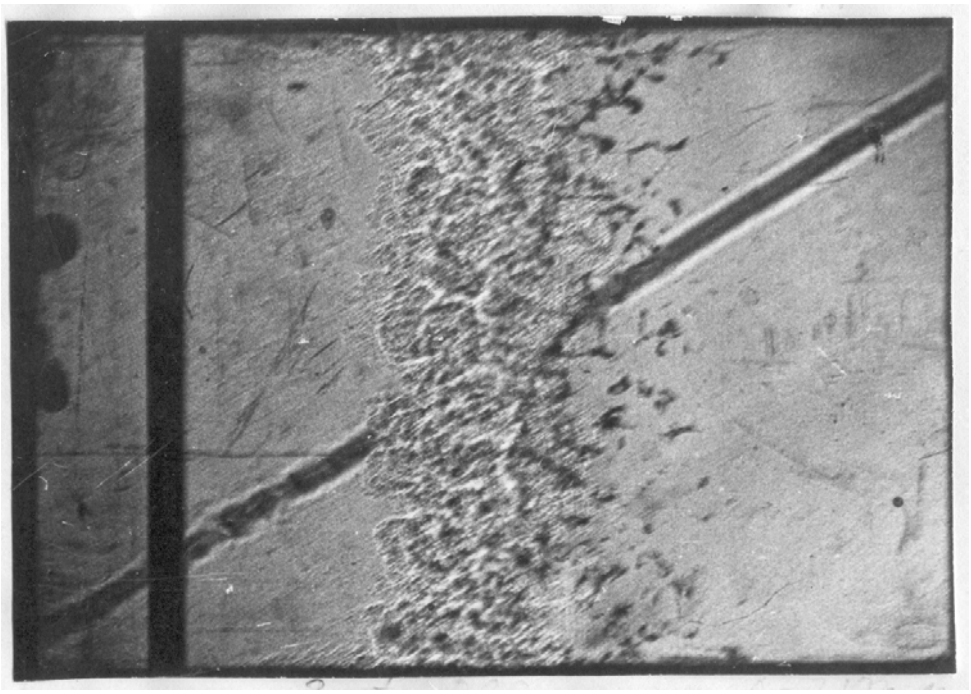

Photo of *turbulent mixing* zone on air - helium interface in experiments such as [1], received by a *Ronchi* method at the moment of time *t=890* мкс after the beginning of movement of interface. Designations: TMZ-zone ТП; F-.shadow of string, size of a defocusing Δ =210 mm,

References

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3. M.Skotnikov. Shadow quantitative methods in gasdynamik. M.,Nauka,1976 (in Russian)