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## Compact laser mass spectrometer for technological analysis of solids

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The new design of compact time-of-flight (TOF) mass spectrometer with laser ion source based on the wedge-shaped reflector is presented. For achievement of the best results during designing the instrument, key problems are solved in two directions: Generation of ions and; separation by masses. Throughout the generation of laser plasma the differences in degree of ionization elements take place. This problem can be overcome by choosing raised laser power density that provides full ionization of all sample components that are evaporated. Analytical signal is formed like a summing of single-charged and multi-charged ions. For leveling nega-tive effects of wide spread by energy of ions the TOF analyzer with wedge-shaped reflector and integration mass spectrums in the total energy range are used. The proposed instrument is effective for analysis of solids and has extremely small overall dimensions. The detail project of mass spectrometer is analyzed, the key units are assessed. The competitive abilities in comparison to spectroscopic analyzers are discussed.

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