Experimental studies of pulsed electric explosion of thin titanium foils in water with discharge power of $\sim 0.2$ GW are described. The production of a considerable amount of molecular hydrogen is revealed whose origin can be explained neither by water decomposition nor by known chemical reactions. A nuclear mechanism of occurrence of the observed molecular hydrogen upon electric explosion is hypothesized. Emphasis is laid on some measurements confirming the hypothesis.

**Key words:** Electrical Explosion; Hydrogen.