

LENR Experiment of Heterogeneous Hydrocarbon Plasma Jet Interaction with Thin Ni-Plate-Target

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Heterogeneous Hydrocarbon Plasma (HHP), was used in LENR experiment in the work [1, 2] at the first time. This HHP was created by erosive pulsed capillary discharge plasmatron ($I_d \sim 100A$, $U_d \sim 160 V$, $T_i \sim 10ms$). PMMA ($C_2H_8O_5$) was used in this plasmatron as a working erosive substance. The experiment was carried out in argon atmosphere ($P_{st} \sim 1 Bar$). It was measured that HHP consists of the carbon nano-clusters and hydrogen atoms and hydrogen ions. This work is a continuation of the previous ones [1]. The interaction of HHP with thin Ni-plate-target (width $0,1 \div 1 mm$) has been studied in this work. HHP- jet heated, melted and evaporated this thin Ni- target. In a result of this interaction HHP jet small hole with the diameter $1 \div 3 mm$ in Ni-plate was burned. Parameters of this hole were measured. The metal plate weights were measured before and after experiment also. It was revealed that the value COP was about of $4 \div 10$ in this experiment (where $COP = Q_T / Q_e$, Q_T – thermal energy of heating and melting of Ni plate-target, Q_e – electric energy used for HHP creation). The new transmuted chemical elements Li, Al, Ca, ... were recorded in HHP in this experiment by optical spectroscopy and EDS-method.

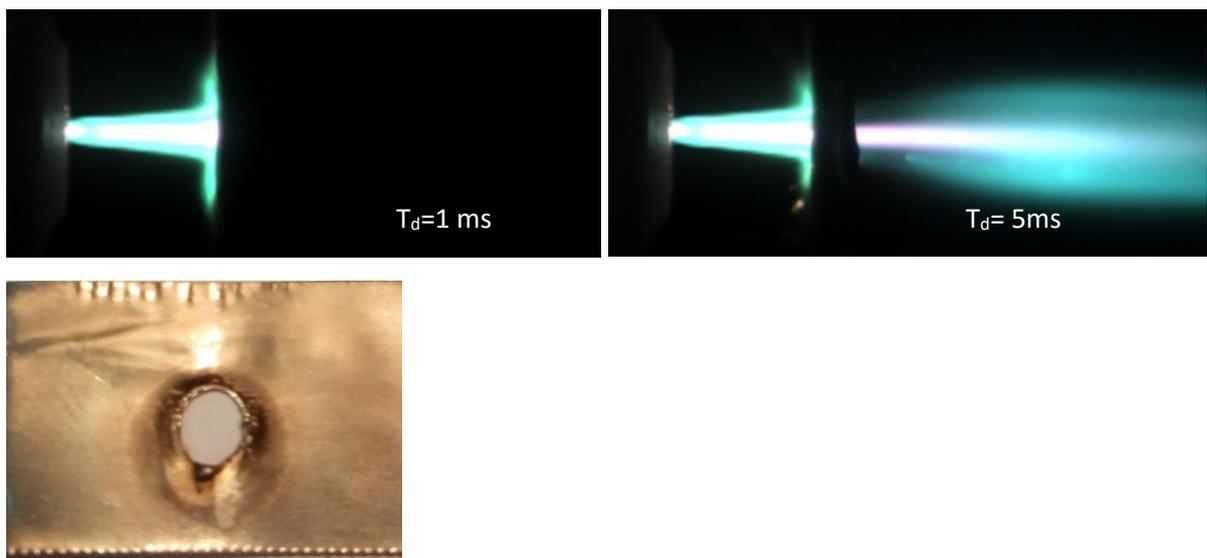


Figure1. Interaction of pulsed HHP-jet with thin Ni- plate-target (top). T_d - delay time from plasmatron's ignition. Hole in the Ni- target (down) with diameter 3x5 mm burned by HHP.

References

- [1] A. Pashchina, A. Klimov, et.al., "Pulsed Heterogeneous Plasma Jet Interaction with a Metal Targets", Proc. WSMFA, Moscow, JIHT RAS, pp. 1-5, 2019
- [2] Ball Lightning in Laboratory, Moscow, Chemistry, pp. 1-256, 1994