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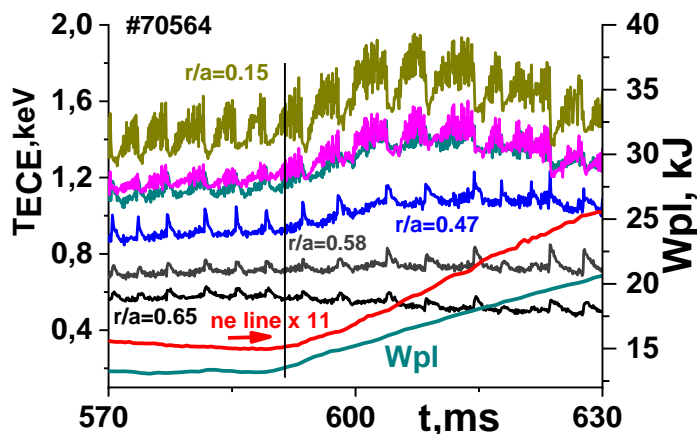
ANALYSIS OF THE EXPERIMENTS WITH NEON PUFFING UNDER ECRN IN T-10 TOKAMAK WITH TUNGSTEN AND CARBON LIMITER ^{*)}

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A new type of L-H transitions, called semiglobal, was found in plasma with a tungsten limiter. Spontaneous transitions (including quasi-periodical one) are observed only with simultaneous co+contr current generation by 1.5 MW EC waves [1-2]. Unlike the global L-H transitions found on JET and JT-60U tokamaks (see [3] and references therein), the temperature increase occurs only in the central part of the plasmas and ITB is formed. Part of the results of this report is published in [2]. The analysis of experiments [4-5] showed that similar transitions in plasma with a tungsten limiter are also caused by the neon puffing at different EC heating power. An example of a transition caused by the neon puffing (started 5-10 ms before the transition) is shown in the figure. The diffusion coefficient decreases in almost the entire volume of the plasma. The Zeff value increases after the neon puffing. The analysis of the evolution of the profiles of Zeff, tungsten and neon is currently being carried out. It is shown that the energy content of plasma W depends almost linearly on the density, and the role of ITB is not so important in all the studied cases. The noticeable positive effects of neon are not clear.

The consequences of the neon puffing in a plasma with a carbon limiter are currently being



analyzed. Transitions similar to those described above have not yet been detected. The statements of some authors [6] are verified that the value of W depends primarily on plasma radiation, and not on density.

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^{*)} [abstracts of this report in Russian](#)