

Influence of electron cyclotron resonance heating on ion heat conductivity in T-10 plasma

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Investigation of ion heat conductivity in plasma with ECR-heating and suppressed saw-teeth and modes $(m, n) = (1, 1)$ and $(2, 1)$ is carried out. Off-axis heating (localization radius is $\rho = r/a \approx 0.5$) and combined heating (on-axis ECRH together with off-axis) are considered. It is shown for the ohmic stage that ion heat conductivity is on a neoclassical level in the central zone $\rho \leq 0.5 - 0.6$ but it is clearly anomalous outside these radii. Off-axis heating does not lead to any notable changes of the heat conductivity profile. In the regime with combined heating additional ≈ 0.5 MW on-axis ECR-power results in ion heat conductivity magnification up to ≈ 1.5 times and ≈ 1 MW on-axis ECR-power causes the increase up to ≈ 2 times.

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