

# Ion Heating by Nonlinear Landau Damping of High-n Toroidal Alfvén Eigenmodes in ITER

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- The NL evolution of high-n TAEs induced by ICS is investigated.
- The ICS shows that the modes evolve with PP bursts that can cause EP avalanches.
- If we consider a weak effect of particle trapping, the system becomes saturated.
- The ion heating during the spectral transfer, responsible for alpha-channeling, is modeled for the predictive simulation.
- With the integrated modeling, it is found that the ion heating by the channeling can compensate the heating loss by the EP transport in the optimistic limit.

