# Alpha Particle Confinement and Losses in JET's Tritium Campaign

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JET's 2021 tritium campaign provides interesting energetic particle scenarios in which to study fast ion confinement, transport, and heating. In particular, the production of alpha particles in T-T fusion reactions presents opportunities for comparison studies against JET's recent DT-campaign. This presentation will focus on fast ion confinment and transport in a discharge from JET's T-campaign. The analysis will encompass both measurement and integrated modeling with the TRANSP [1] and ORBIT-kick [2] codes. Energetic tritons and alpha particle loss measurements will be presented and compared against a synthetic loss model [3] to study the confinement properties against an observed long-lived mode. The spatial and energy sensitivity of the losses will be detailed. Lastly, the impact of the alpha particles on the neutron rate will be briefly discussed and considered for future analysis. Additonal work will include neutron and gamma ray measurements to provide further details on the alpha and beam-born distributions.

## References

[1] B. Joshua, et al., 2018 *TRANSP Software* USDOE Office of Science (SC), Fusion Energy Sciences (FES) (https://doi.org/10.11578/dc.20180627.4)

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