

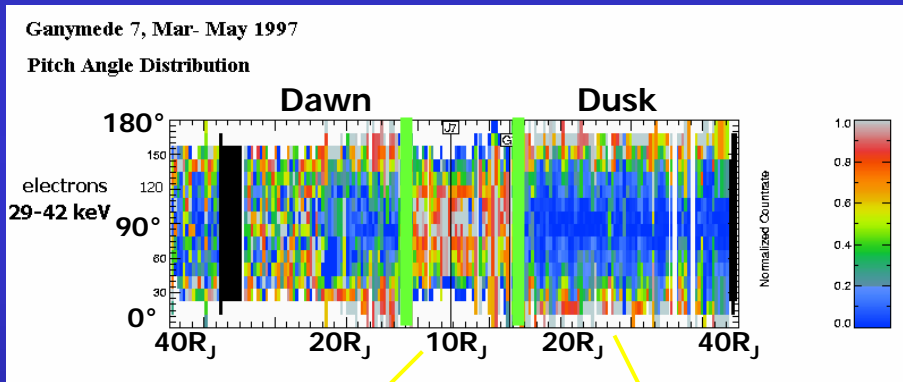
Energetic electrons in the inner part of the Jovian magnetosphere and their relation to auroral emissions

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Galileo observations

➤ Most prominent and well defined boundary → **change in the electron pitch angle distributions located between 10 and 17 R_J**

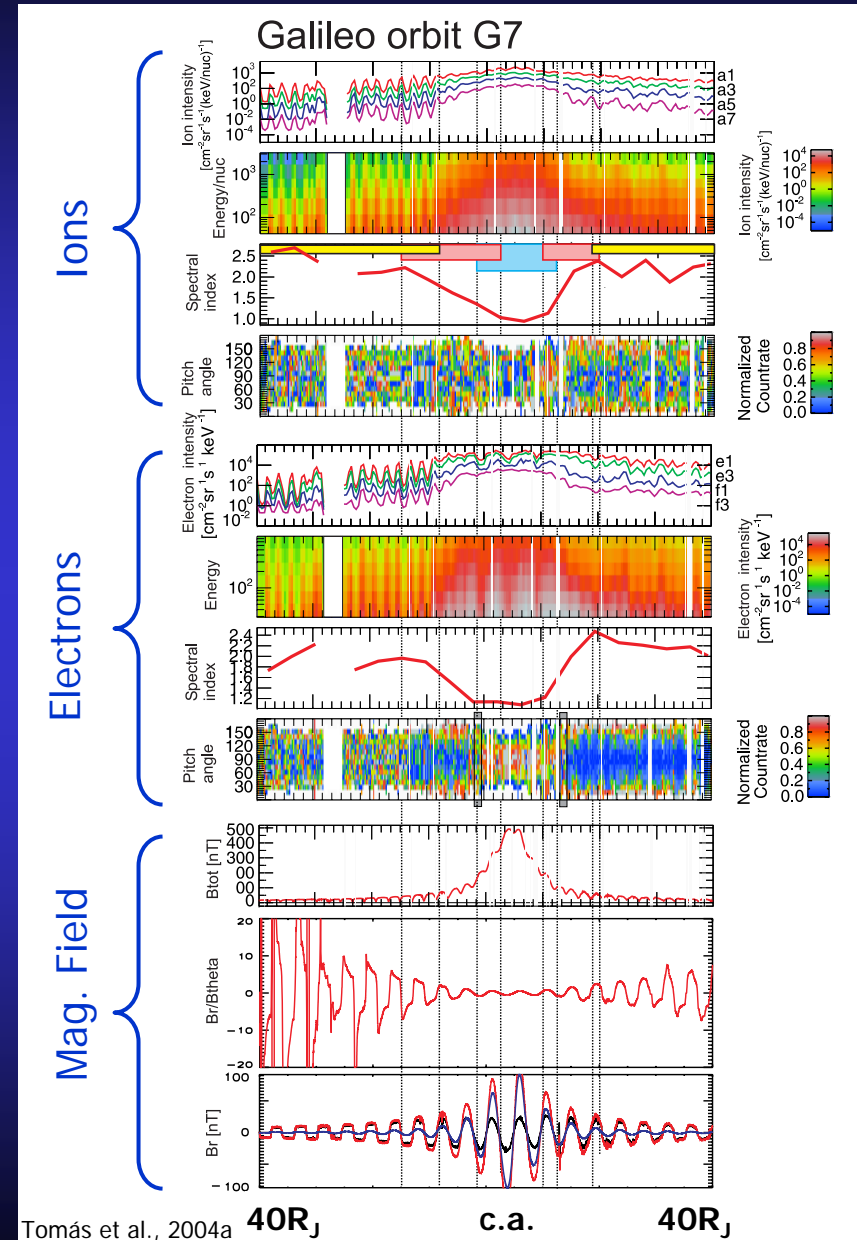


Inner Region

Pancake distribution with electrons maximum at 90°

Outer Region

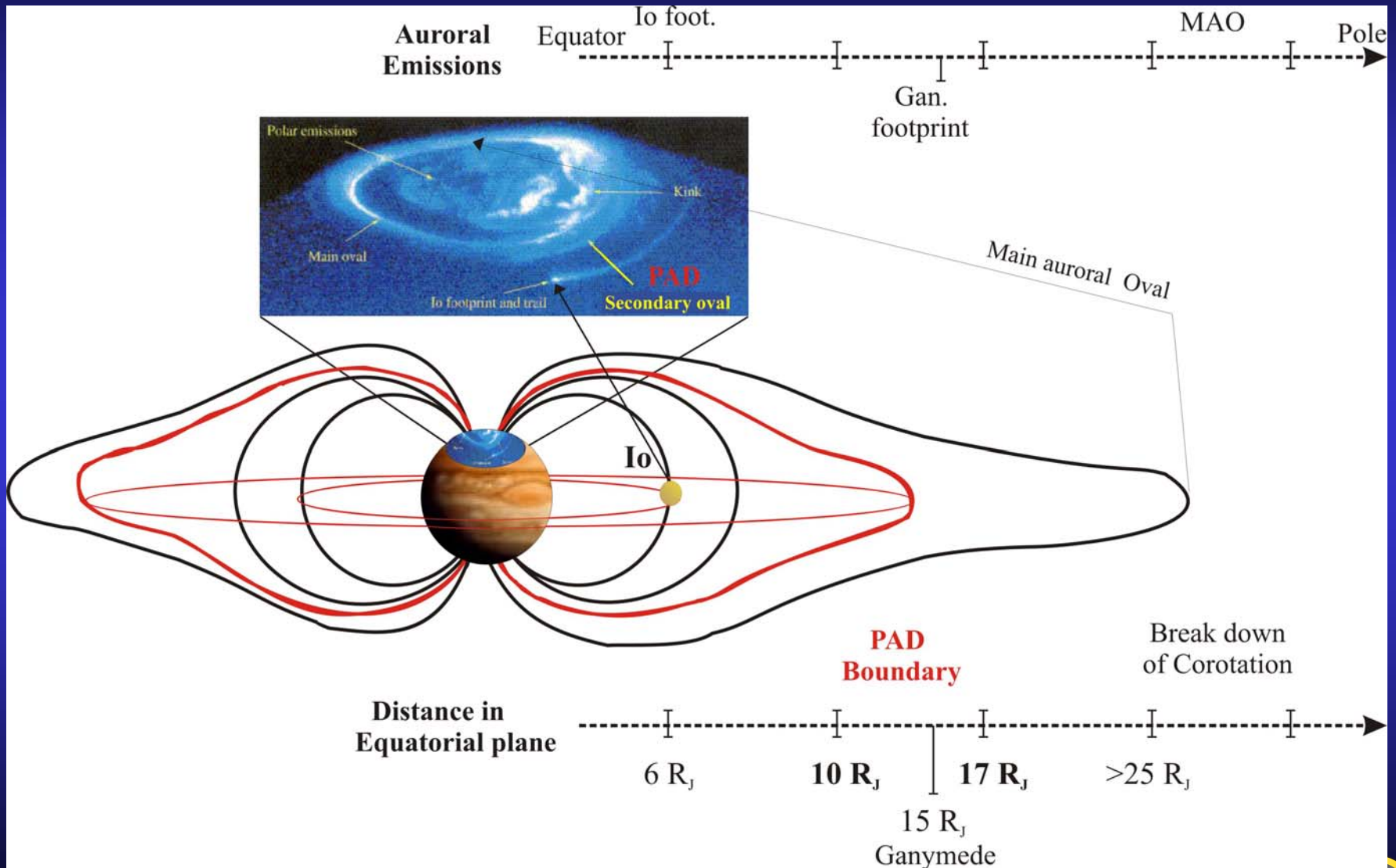
Field aligned bi-directional electrons



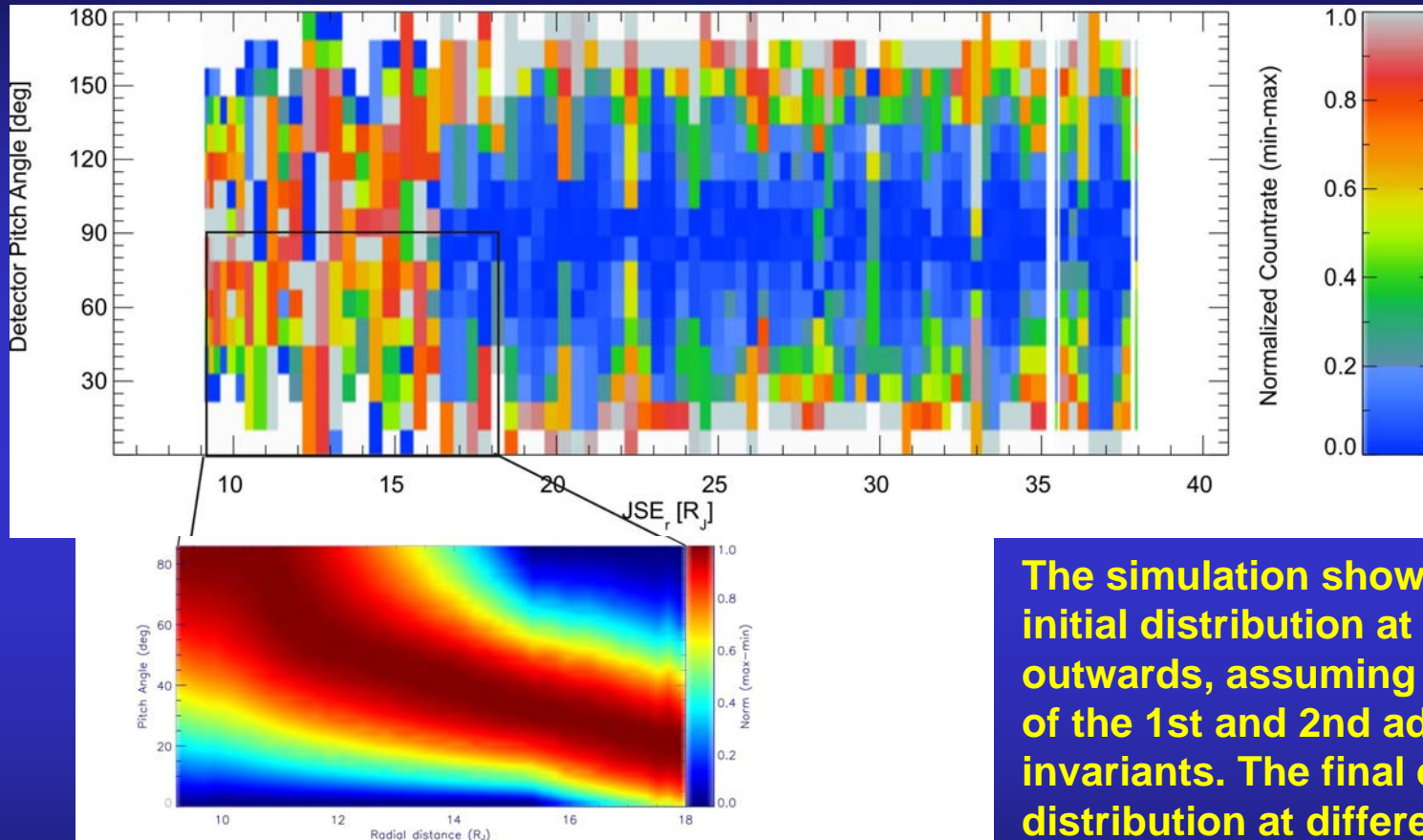
Tomás et al.

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Mapping from the equator to aurora



Simulation of electron PAD changes



The simulation shows how an initial distribution at 9 R_J evolves outwards, assuming conservation of the 1st and 2nd adiabatic invariants. The final electron distribution at different radial distances is calculated, considering the magnetic field changes described by the VIP4 model.