

## Part III

# Magnetospheric models

### Tuesday morning. Session Chair: Diumber Lominadze

- How do average profile properties constrain radio-frequency emission models?
  - ★ Magnetospheric models
    - \* Magnetospheric models for non-vacuum conditions: primary and secondary particle populations; current paths and return currents; secondary, current-induced, contributions to the magnetic field.
    - \* General possibilities for radio-frequency emission processes operating both near the pulsar and in the outer magnetosphere.
    - \* Physical considerations relating to the ability of neutron stars to generate electric fields and accelerate charged particles.

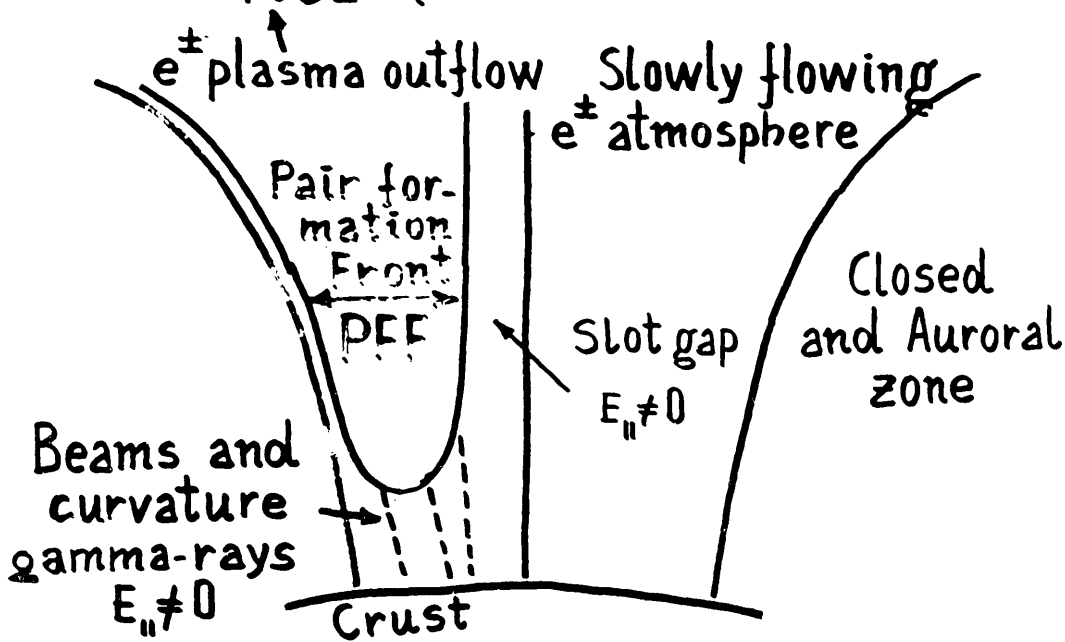
*As part of the introduction to this session, the Chair, Dr. Lominadze, presented a penetrating summary of the historical development of polar cap emission models. We are pleased to include here as the first paper of the session, copies of the transparencies he used. We regret that we do not have a complete transcript of his remarks. We recall that they were complete, incisive, and very amusing.*

*Dr. Lominadze's contribution was followed by a formal review by Prof. Jonathan Arons, entitled, Magnetospheric structure of rotation-powered pulsars. Prof. Arons submitted an even more extensive review for the Proceedings, which we are pleased to include in this section.*

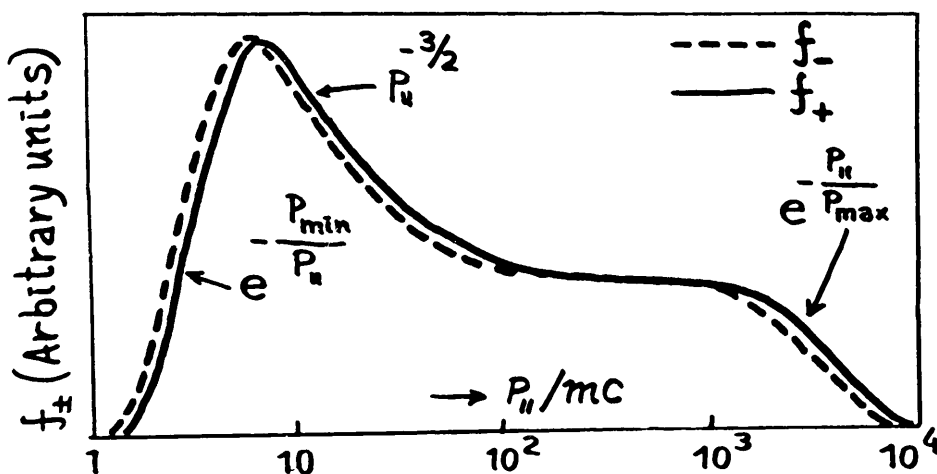
D. LOMINADZE

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# PULSAR THEORY: PARTICLE ACCELERATION AND PHOTON EMISSION IN THE POLAR FLUX TUBE (Jonathan Arons)



The distribution of pair momenta well above the PFF



# POLAR CAP MODEL

