# Round-Table Discussion

*not more than 50 minutes*

Mutual inconsistency of the existing data on photon strength functions from the $(\gamma,n)$, $(n, \gamma)$, $(\gamma,\gamma')$, $(^3\text{He},^3\text{He}'\gamma)$, $(^3\text{He},\alpha\gamma)$, *etc.* reactions.

How to proceed to settle this problem?

Co-operation between different communities?
A global analysis of the data?

Is the theoretical description of the PDR good enough to be in tune with the existing experimental data?

Is there a consensus on the origin of the PDR?
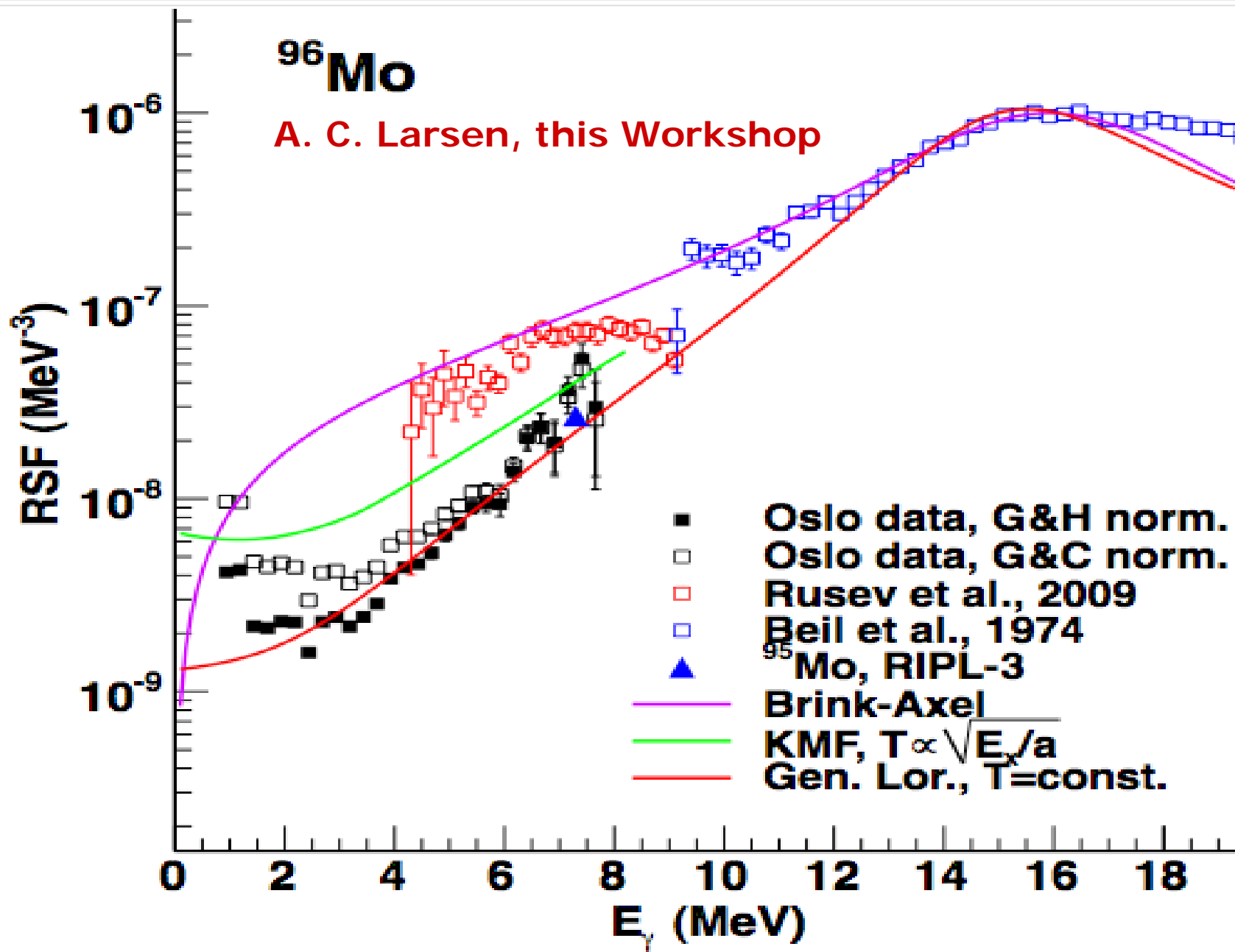
Is there a unique definition of the PDR?

Role of deformation and in particular triaxiality in interpreting the existing $(\gamma,n)$, $(n, \gamma)$, $(\gamma,\gamma')$, $(^3He,^3He'\gamma)$ and $(^3He,\alpha\gamma)$ data on $\gamma$–soft nuclei in terms of photon strength functions

$^{96}$Mo

A. C. Larsen, this Workshop

- Oslo data, G&H norm.
- Oslo data, G&C norm.
- Rusev et al., 2009
- Beil et al., 1974
- $^{95}$Mo, RIPL-3
- Brink-Axel
- KMF, $T \propto \sqrt{E_x/a}$
- Gen. Lor., T=const.

RSF (MeV$^{-3}$)

$E_\gamma$ (MeV)

***Three closely related questions:***

Is the $E1$ PSF $T$- and/or $E_{exc}$-dependent?

Is the width of the E1 GDR $E_\gamma^2$- and $T^2$- dependent?

Is the validity of the widely accepted GLO model justified?

*Brink Hypothesis:*

Is the behavior behind it of a generic character?

Do we have a convincing example where the BH is violated?

Are there first principles justifying its validity?

## *Challenges for theory:*

The need for predictions of photon strength functions at low $\gamma$-ray energies, $E_\gamma < 3$ MeV (e.g., for undestanding the effects of "upbending")

... and the predictions of PSFs characterizing transitions to excited levels

# THANK YOU