



CONCLUDING REMARKS

(A VERY PERSONAL VIEW)

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ECPM XXXVIII

a (very exaggerated) quote from a colleague:

*“There are still cyclotron conferences?
I thought that you buy them commercially of the shelf”*

This ECPM showed, that this is only half of the truth!

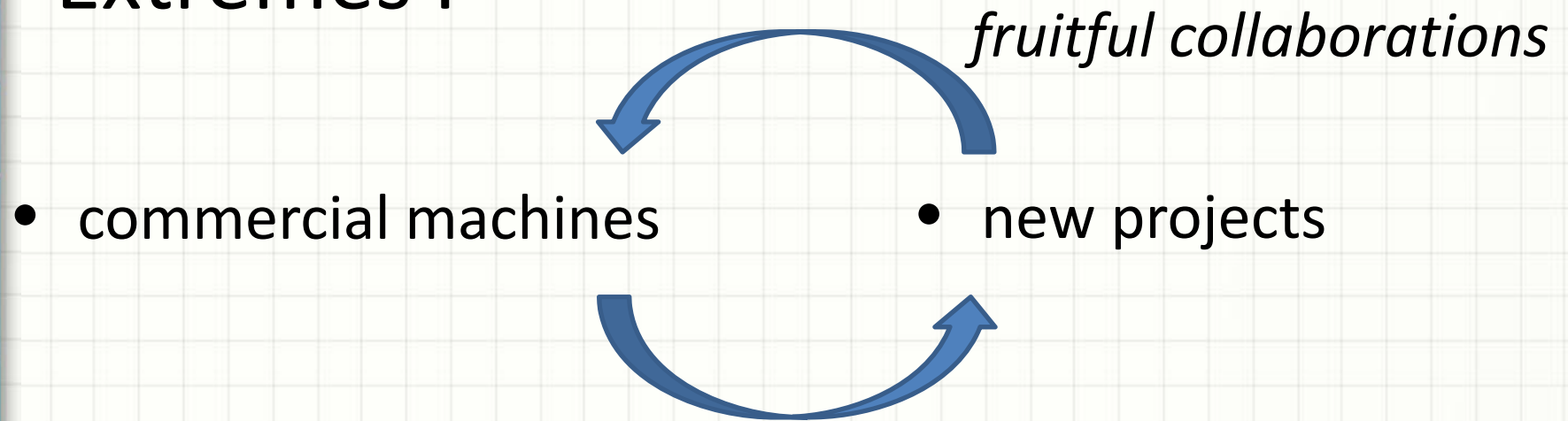
Contributions

- covering all aspects
 - ion sources
 - beam transport and dynamics
 - injection and extraction
 - beam delivery
 - targets
- fascinating and stimulating
- inspiring intensive discussions

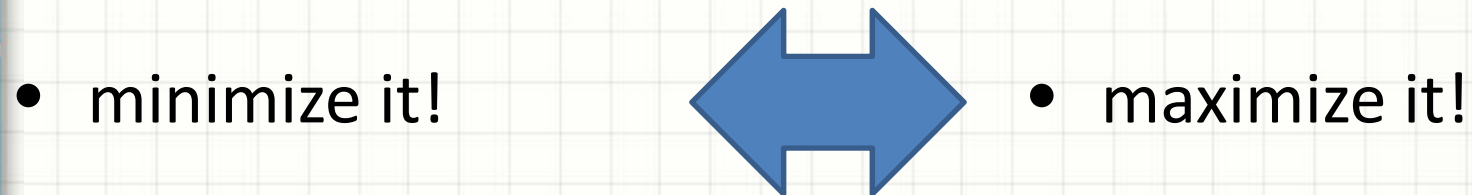
Problems for Cyclotrons

- human resources
- funding
- research cyclotrons: when nuclear physics loses funding, change of users
other users very diverse
→ very difficult situation

Extremes I



Extremes II



Trend?

- combine cyclotrons with LINACs

Minimize It!

- size of the cyclotron
- number of operators required for therapy cyclotrons
- power consumption by “put-to-sleep” mode
- vacuum (goal: 2×10^{-8} mbar)
- beam losses
 - high power machines
 - heavy ions
- target (nano!)

Maximize It!

- size of experiment
- variety of cyclotrons
- beam intensity (and power)
(achieved and planned)
- beam energy
 - research
 - medical applications
- calculations and simulation tools
 - planning and design of new machines
 - improvement of existing machines
- understanding of existing machines
- uptime



**INSPIRING & FASCINATING
CONFERENCE**

**THANKS TO THE PSI PEOPLE
FOR EXCITING AND
WONDERFUL DAYS**