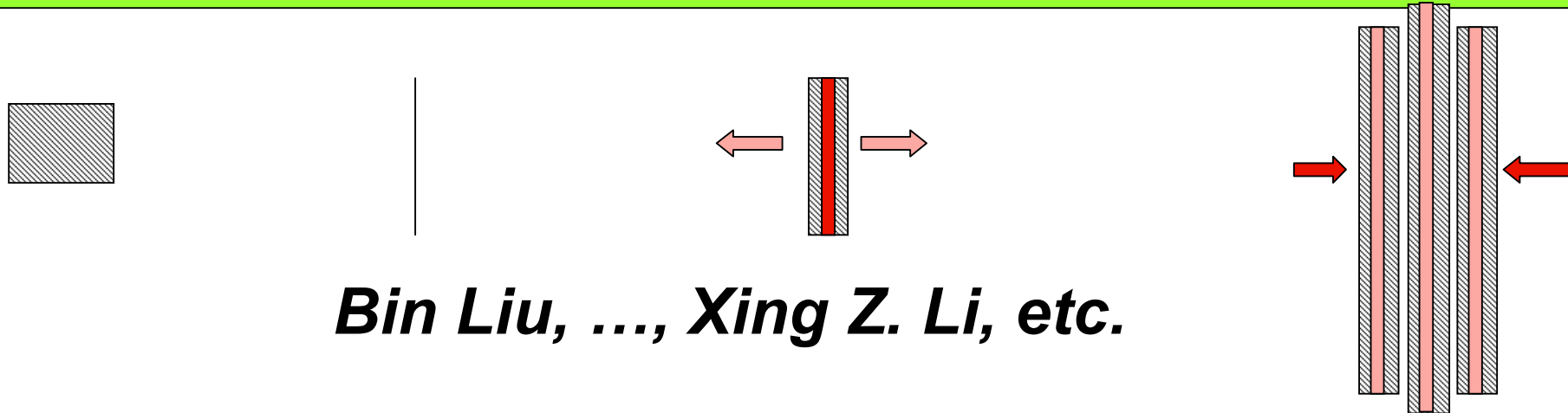


Gas-Loading Experiment with Pumping inside Pd Tube



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Department of Engineering Physics,
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Tsinghua University, Beijing, China 100084**

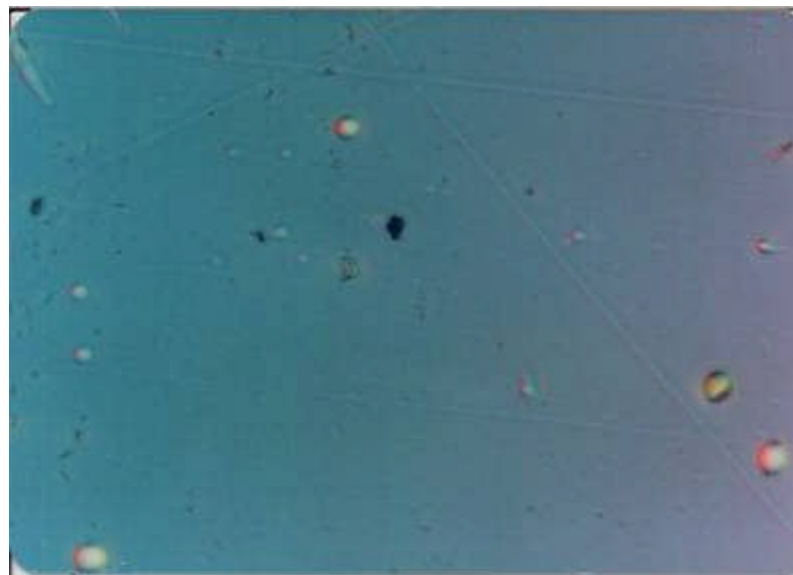
lxz-dmp@tsinghua.edu.cn

8-th International Workshop on Anomalies in Hydrogen / Deuterium Loaded Metals,
13-18 October 2007, Catania, Italy

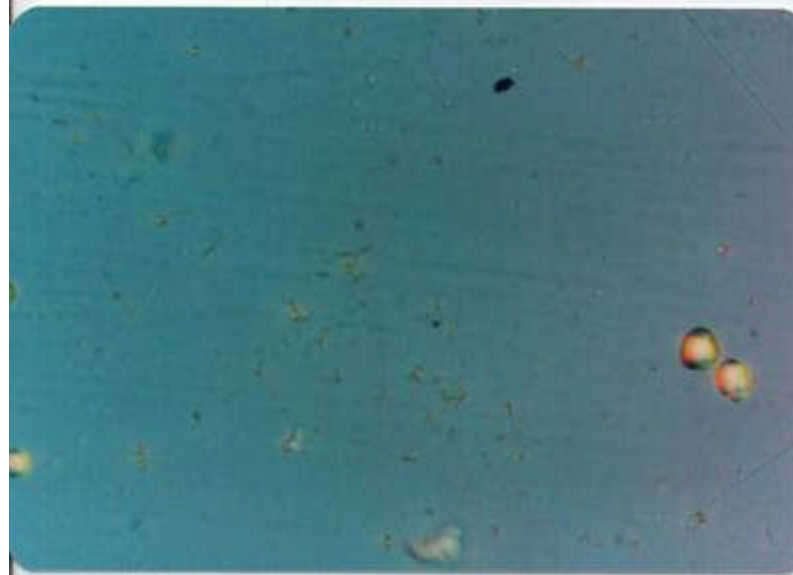
Outline of 18 Year Gas-Loading Experiments

- **CR-39, Neutron is not Necessary Products, Low T- High P. (1989)**
- **High T- Low P. (Heat after Death(1993),
Oates & Flanagan(1995))
High Loading, Good reproducibility.**
- **Pumping Effect (1999)**
- **Correlation: D-Flux & Heat Flow (2003)**
- **Theory & Confirm. in France, Japan (2005₂)**

CR-39 in 1990, Provo, Utha



H+Pd (6) X300



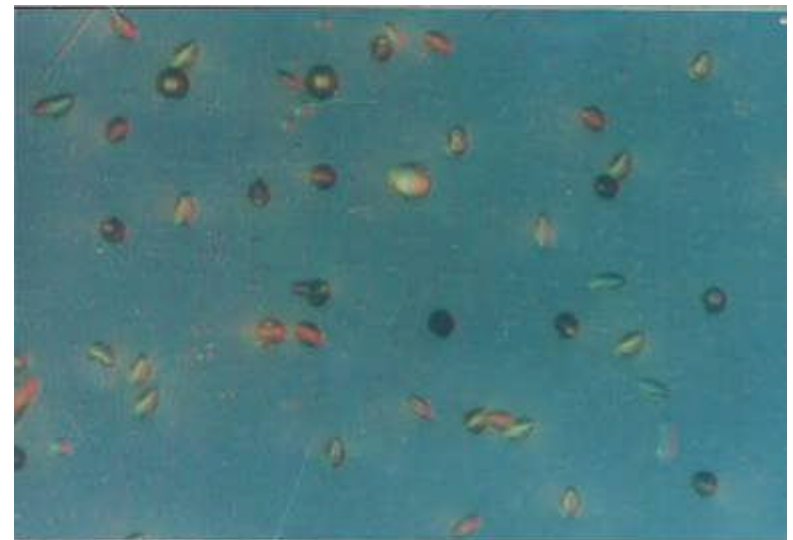
D gas only (7) X300

CR 39

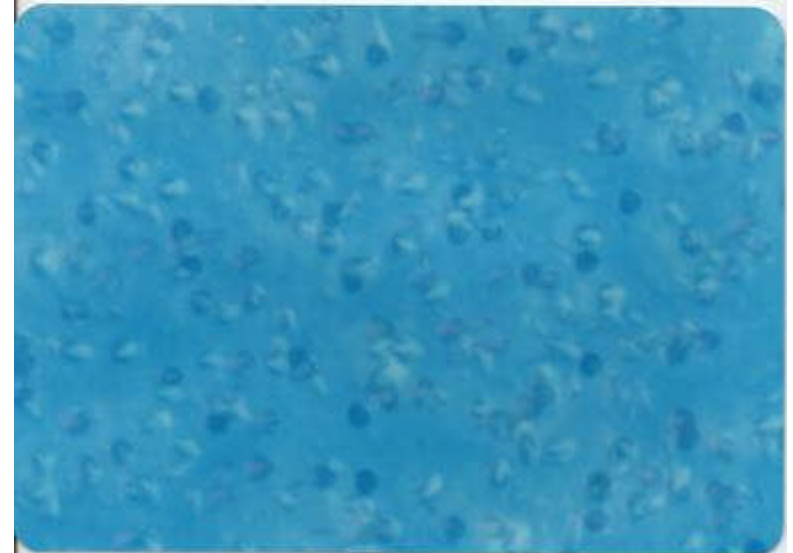


TLD

Pd



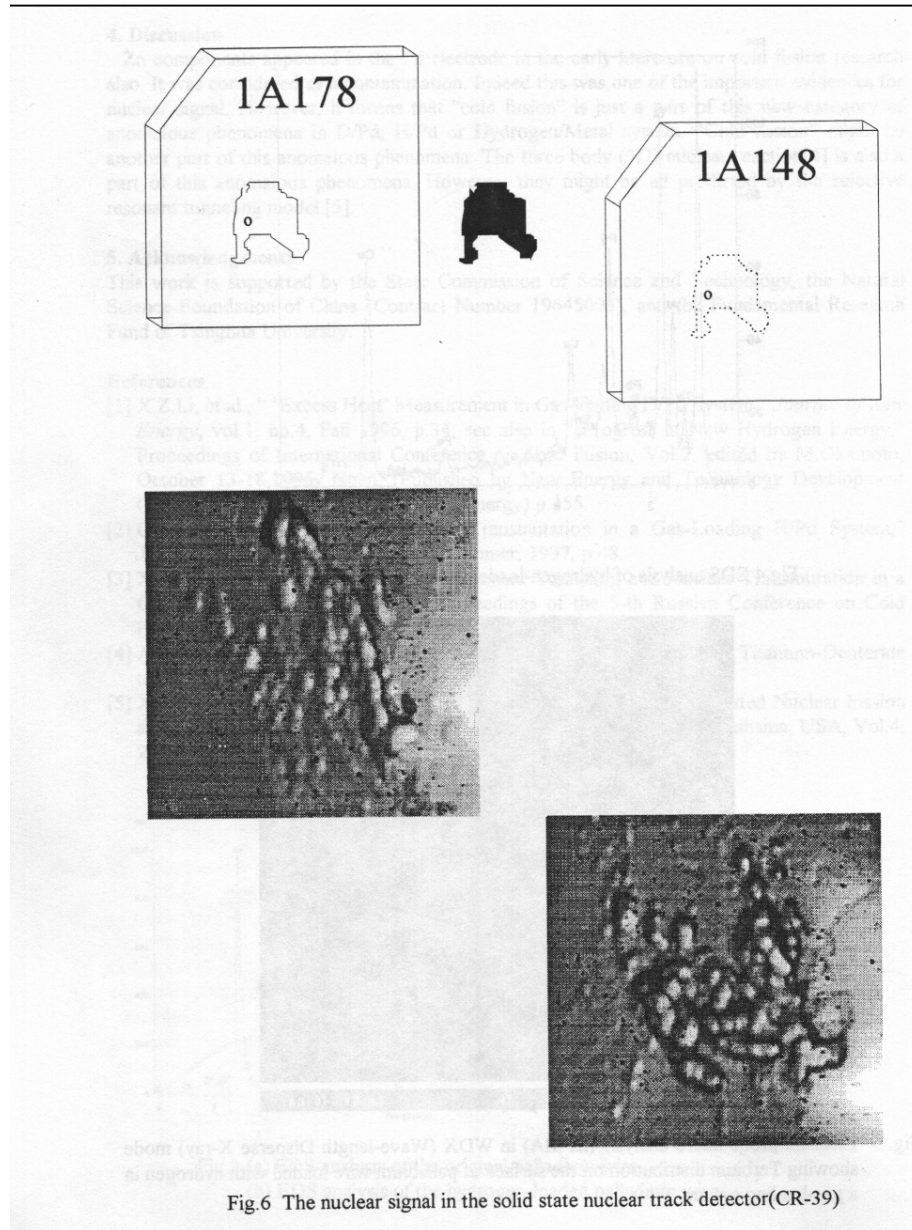
D+Pd (7) X300



Radiated by Alpha 5 min. X300

ICCF-7 (1998)

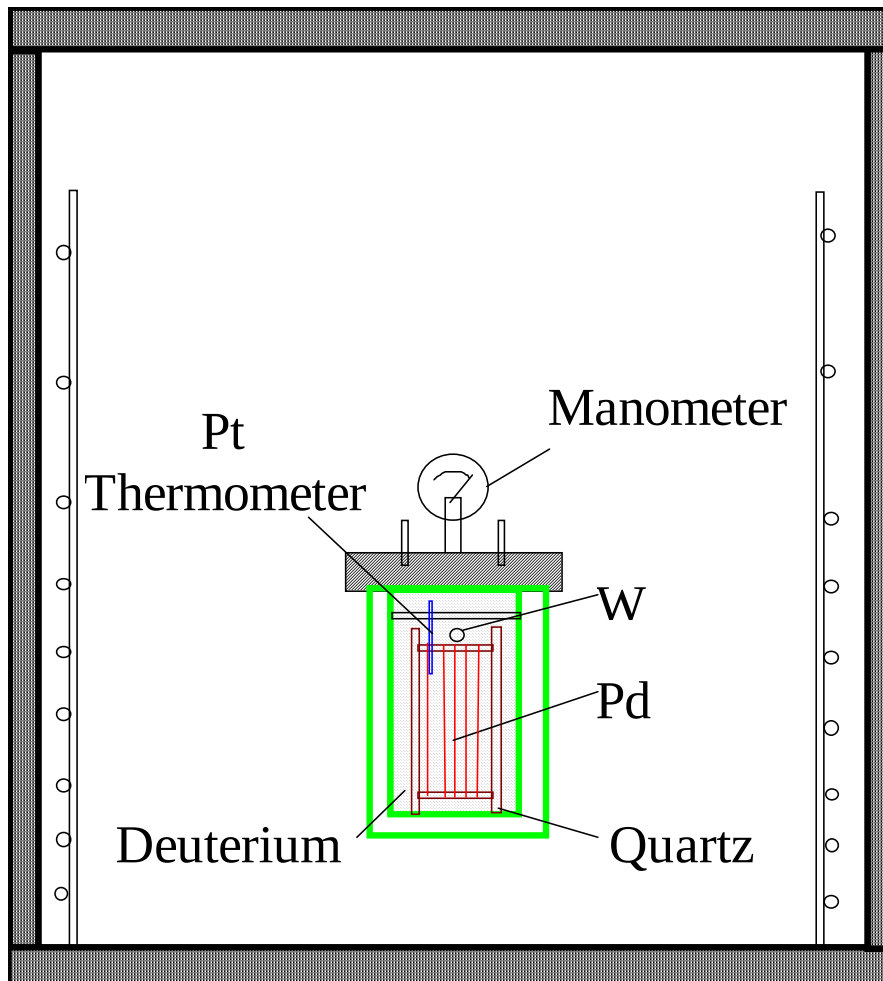
ICCF-9 (2002)



${}^7\text{Li}/{}^6\text{Li}=23.8$
(T. Passell)
Nature:12.3

Gas-Loading D/Pd System

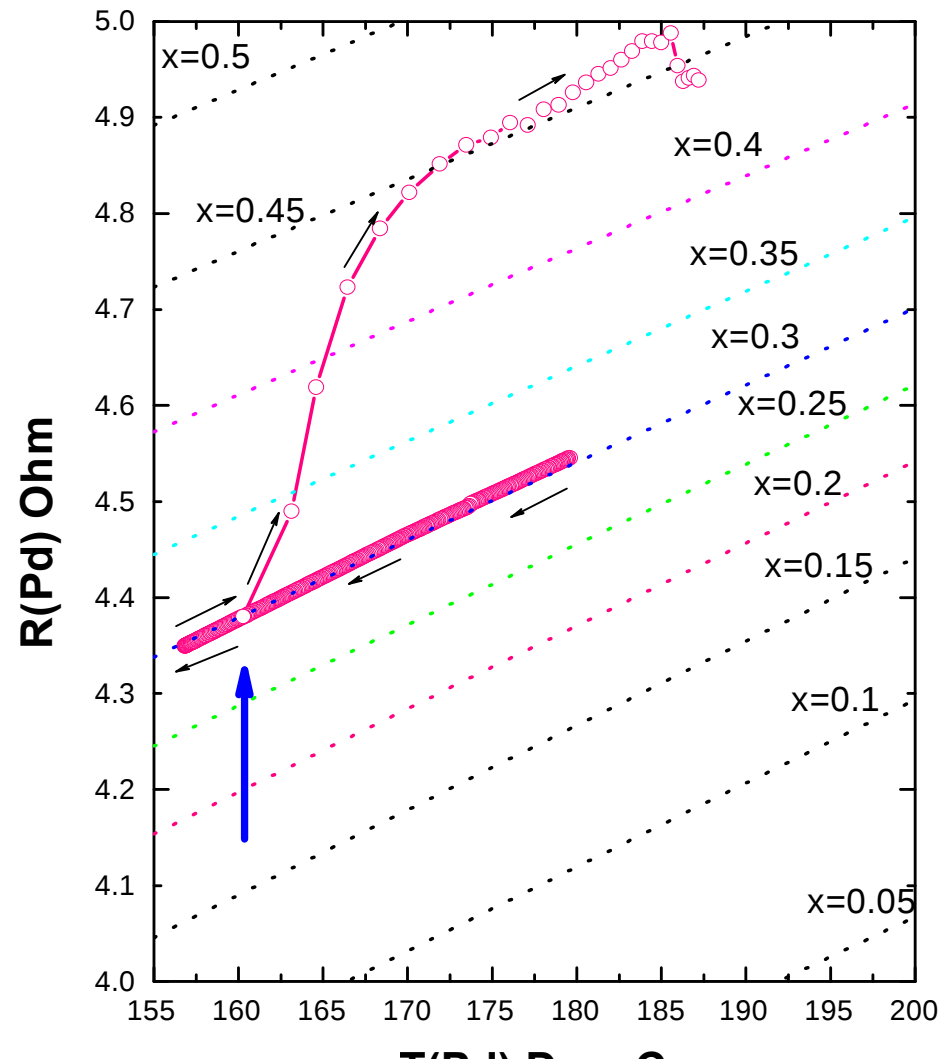
$T > 100^{\circ}\text{C}$ (1995)



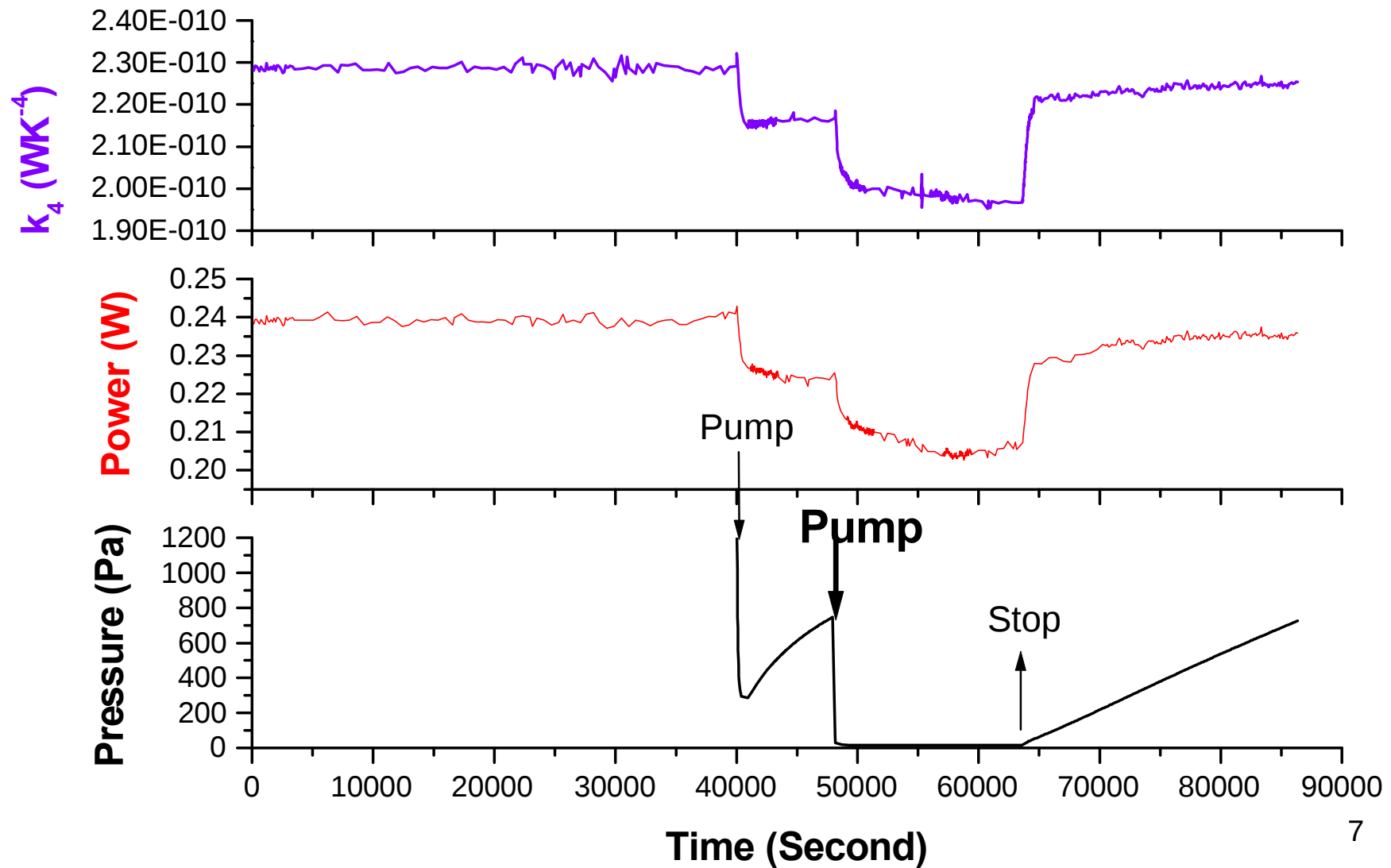
- **Low P — High T**
- **High Sensitivity**
30 Deg.C/W
- **Long Pd Wire:**
250 CM (0.24 c.c.)
- **$V/k \sim 7.2$ c.c. Deg./W**

Pumping Effect on Loading

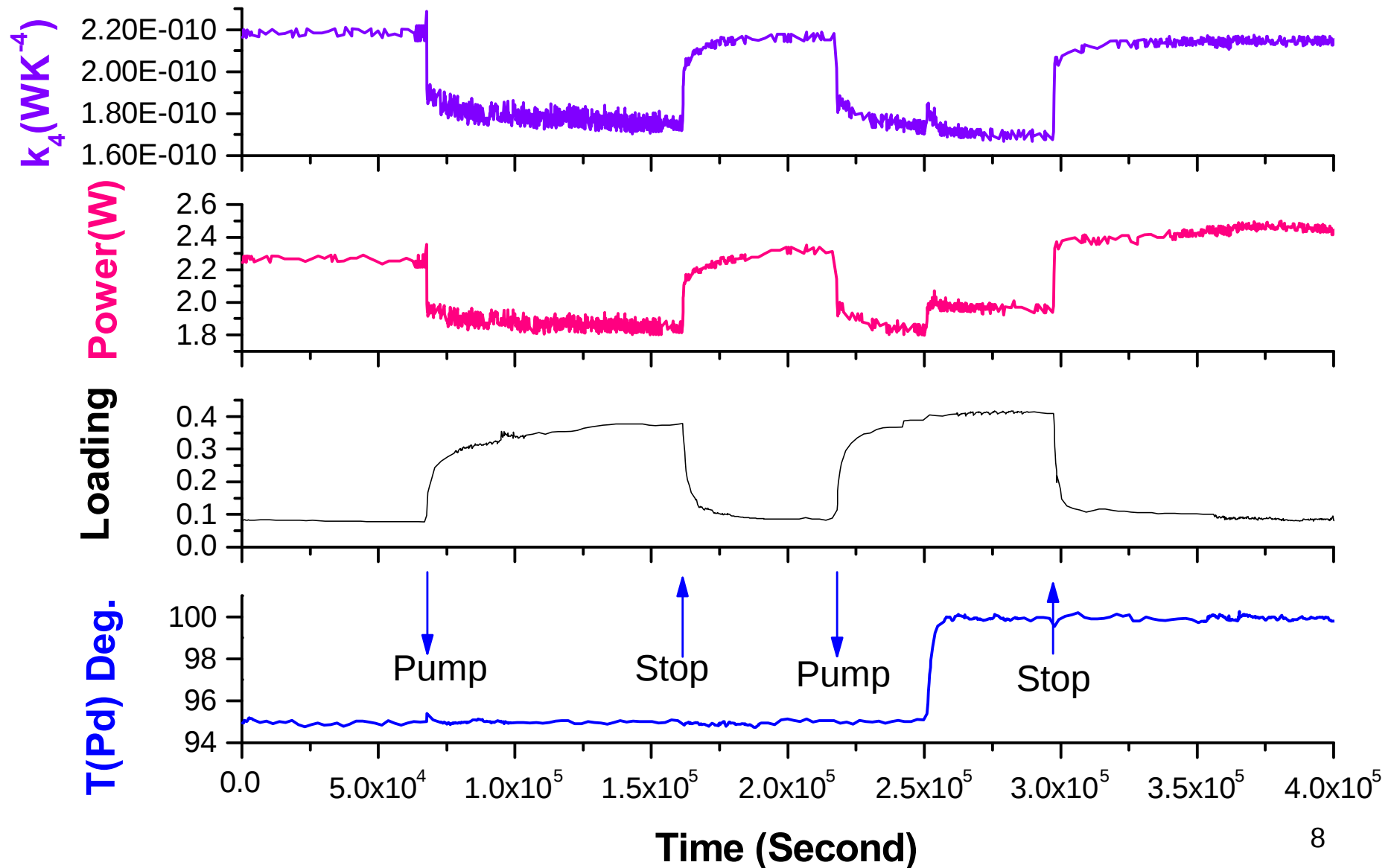
Constant Current mode $I(\text{Pd})=1.080\text{A}$

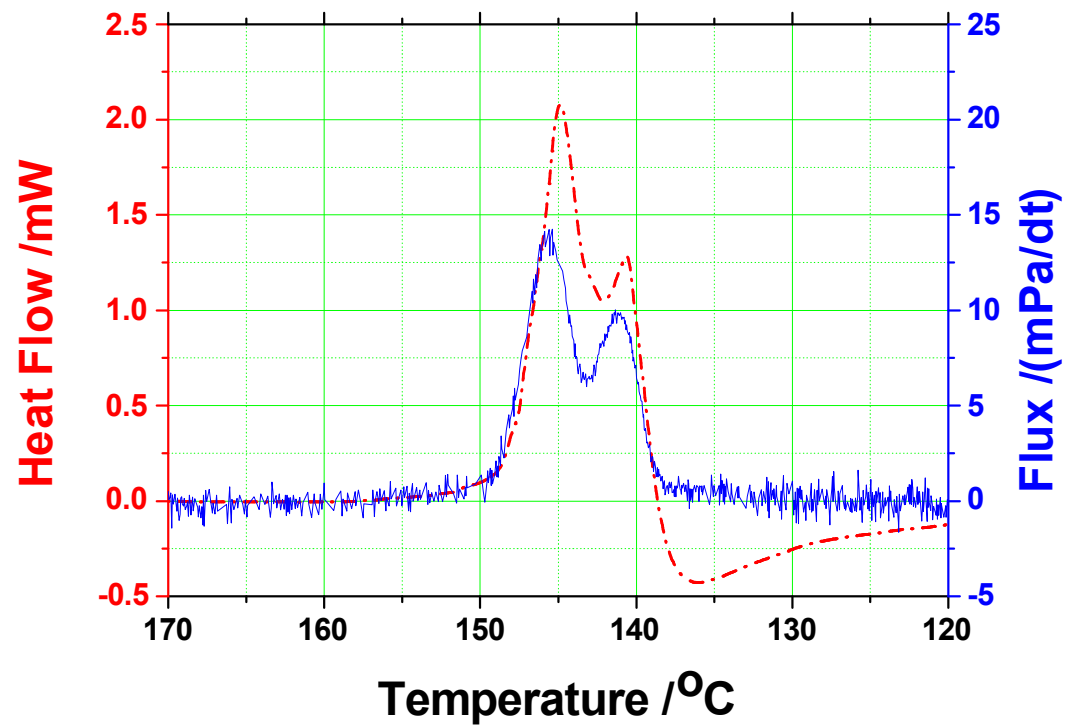


Pumping Effect in **Constant-T(Pd)** Mode(50Deg.C)



Pumping Effect in Constant-T(Pd) Mode(95-100°C)

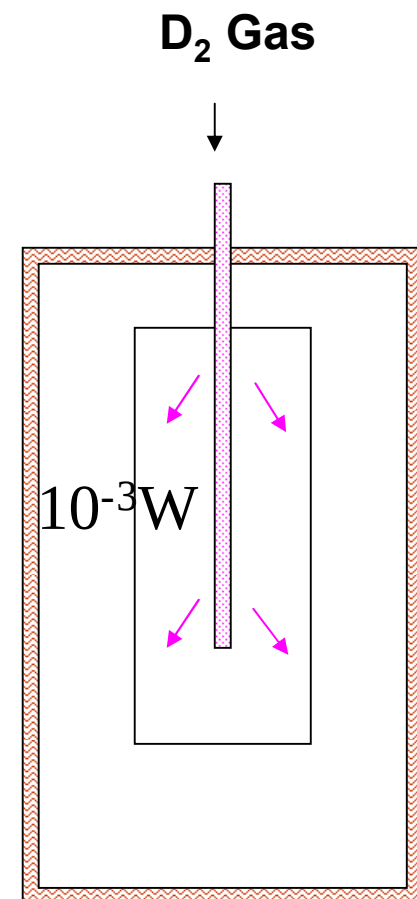


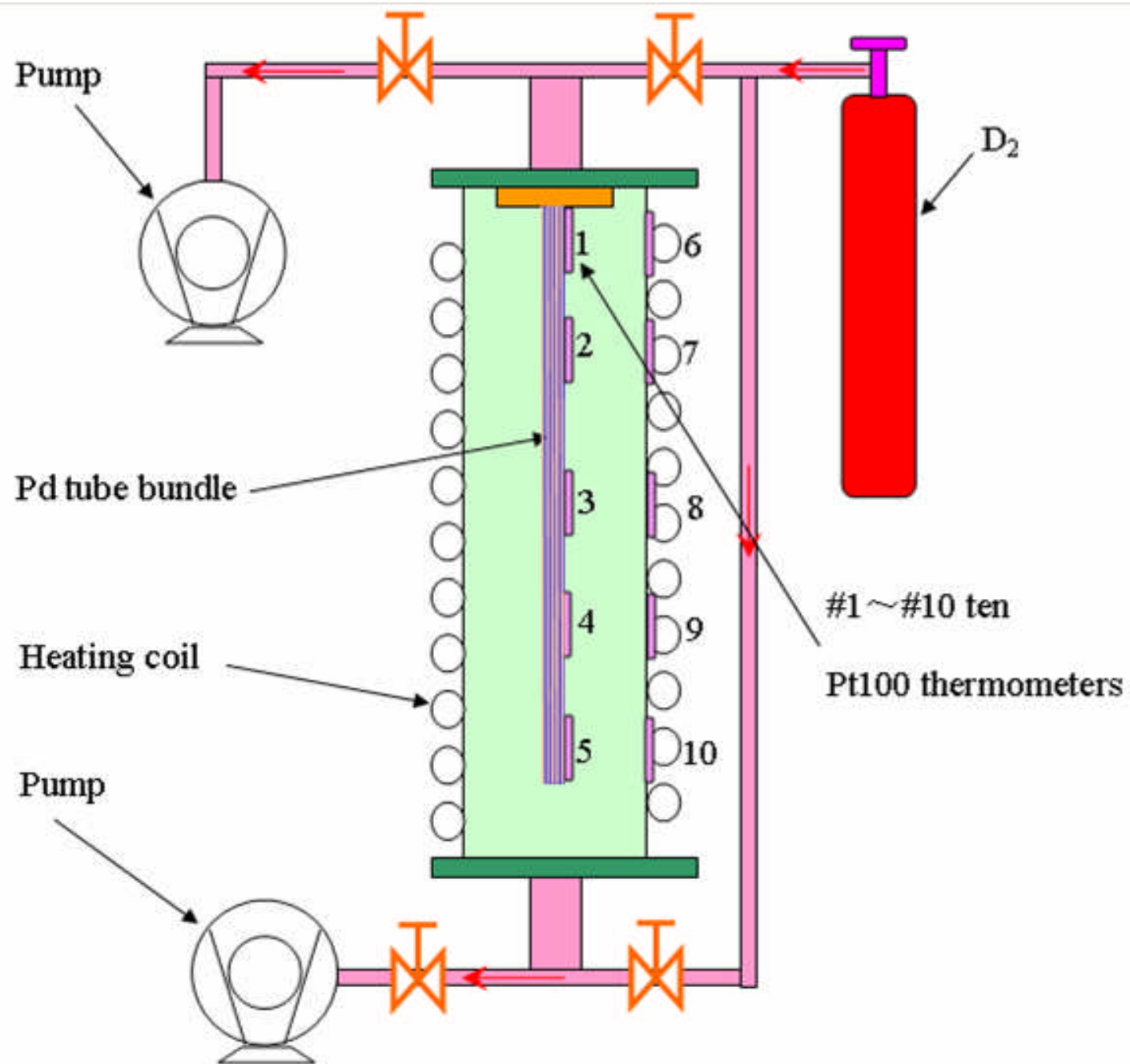


Calvet (Seebeck) Calorimeter

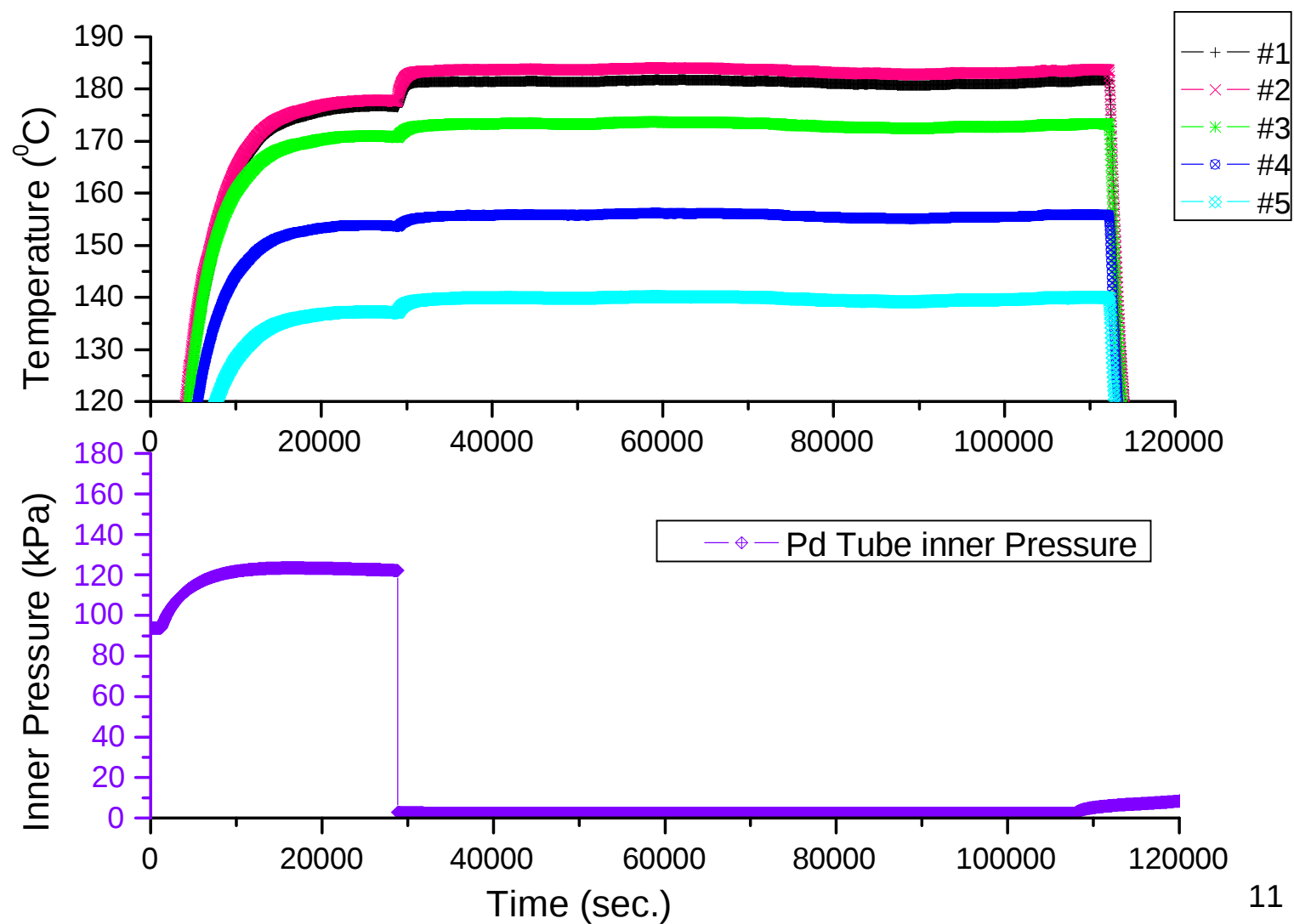
10^{-6} W

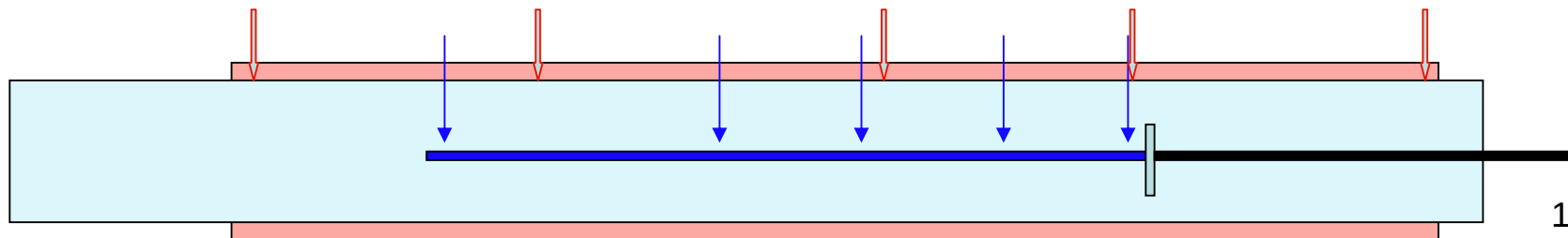
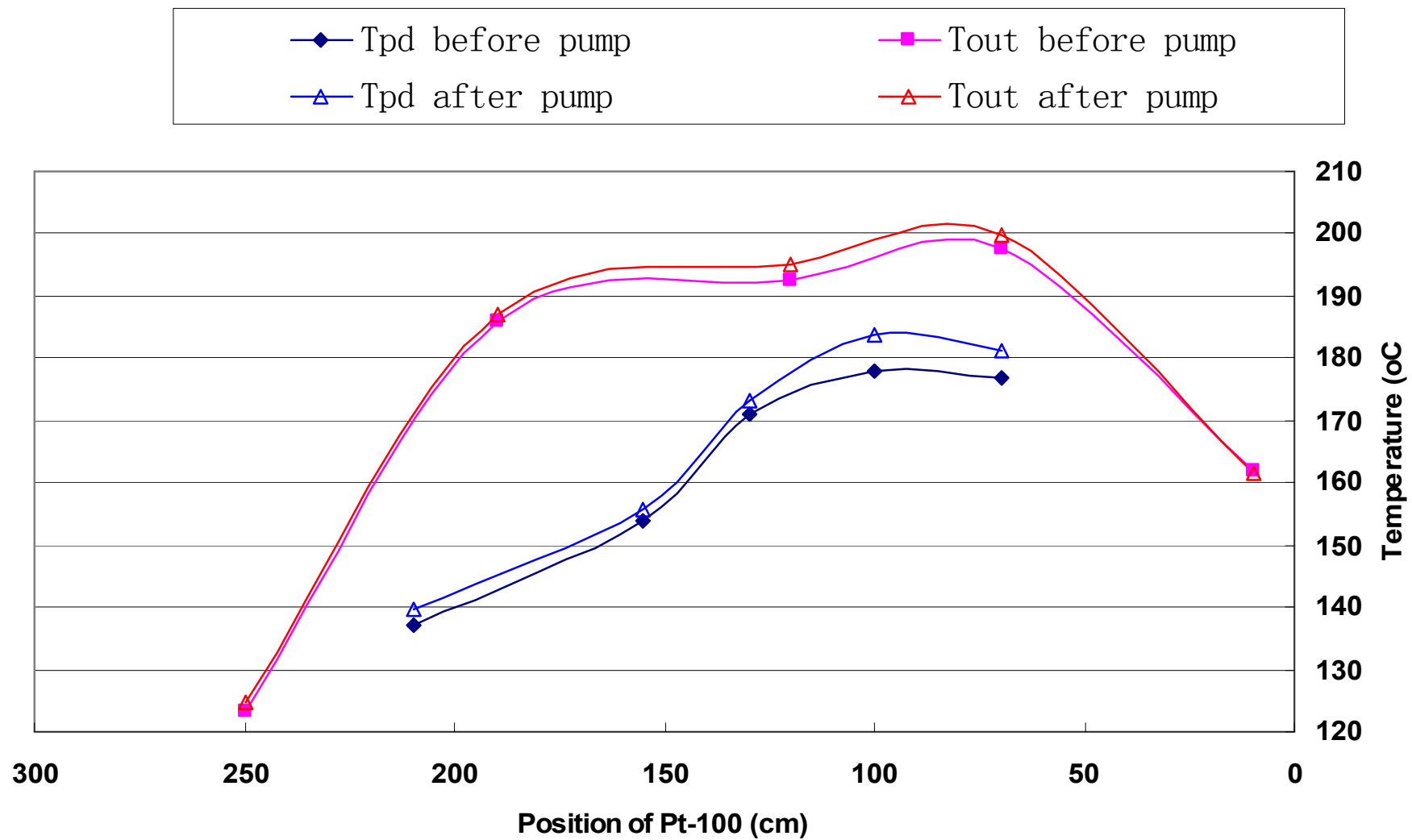
#





Gas-Loading Experiment with Pumping inside Pd Tube





Conclusion

- Gas-loading is good way to study CMNS
- High reproducibility
- High temperature
- High sensitivity
- Combination with glow discharge technique
- FP-7 fuel element