

# 50th Anniversary of Zakopane School of Physics

- \* How it all began?
  - \* A few of young physicists created an informal ,Advanced Study Group' (ASG)...

# 50th Anniversary of Zakopane School of Physics

Advanced Study Group at the XXXVI School in 2001



*Left to right:*

Irek Natkaniec

Andrzej Jasiński<sup>†</sup>

Jurek Sieniawski

Krzysztof Parliński

Basia Sawicka

Jurek Sawicki

J.S.

Krzysztof Tomala

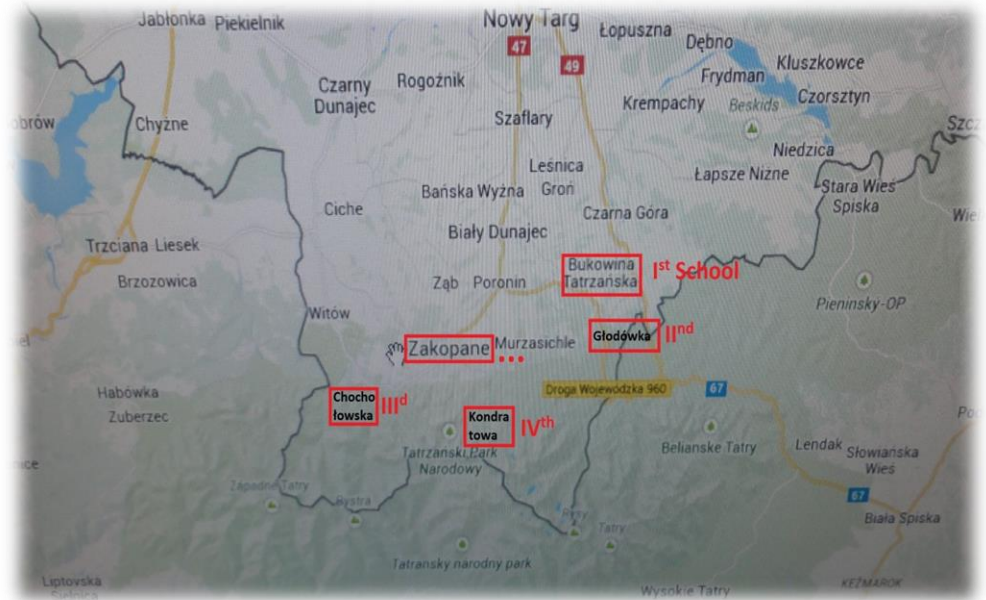
*Missing:*

Andrzej Bałanda<sup>†</sup>

Władek Waluś

# 50th Anniversary of Zakopane School of Physics

- \* We charged ourselves with studies of the Green function and its applications
- \* 1<sup>st</sup> School of Physics was organized in Bukowina Tatrzańska (1963) ... It gathered the ASG group (not complete); more Professors then students. Winter period – skiing in the afternoon break



# 50th Anniversary of Zakopane School of Physics

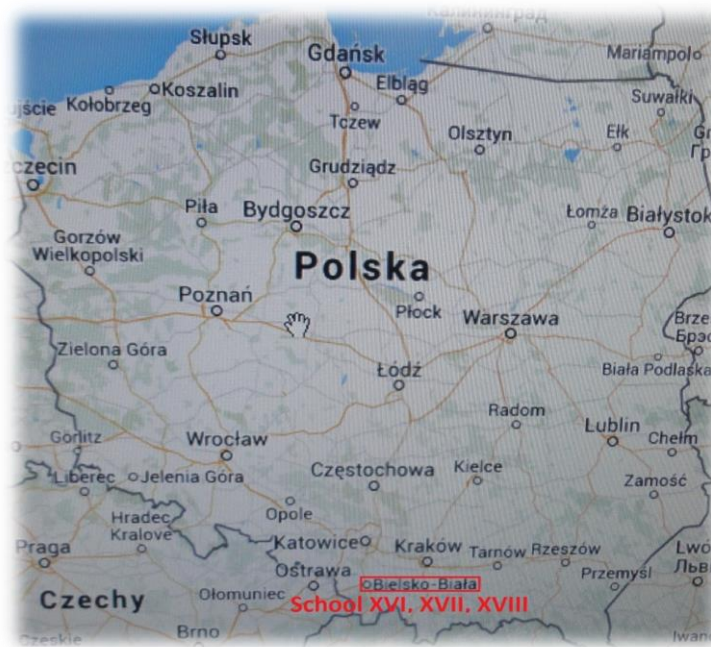
- \* The second School took place in Głodówka (very important for me, personally...)
- \* The third –  
in Chochołowska Valley



At lecture -  
IFJ founder -  
H.Niewodniczanski

# 50th Anniversary of Zakopane School of Physics

- \* In the years 1978, 1979, 1980 the School was moved to Bielsko-Biała region, when IFJ was incorporated into the Ministry of Energetics (*disaster*)



# 50th Anniversary of Zakopane School of Physics

- \* Variety of programs
  - \* Green function studies
  - \* Magnetic moment measurements of short-lived excited states  
(by time differential method developed in IFJ Krakow)
  - \* Nuclear spectroscopy, nuclear reactions, structure of nucleus...
  - \* Hyperfine interactions studied with perturbed angular correlations and
  - \* Mossbauer spectroscopy studies
  - \* PIXE experiments
  - \* .....
- \* Some schools were overwhelmed by nuclear physics aspects
- \* „Real schools”, lasting for two weeks with several hours' lectures

# 50th Anniversary of Zakopane School of Physics

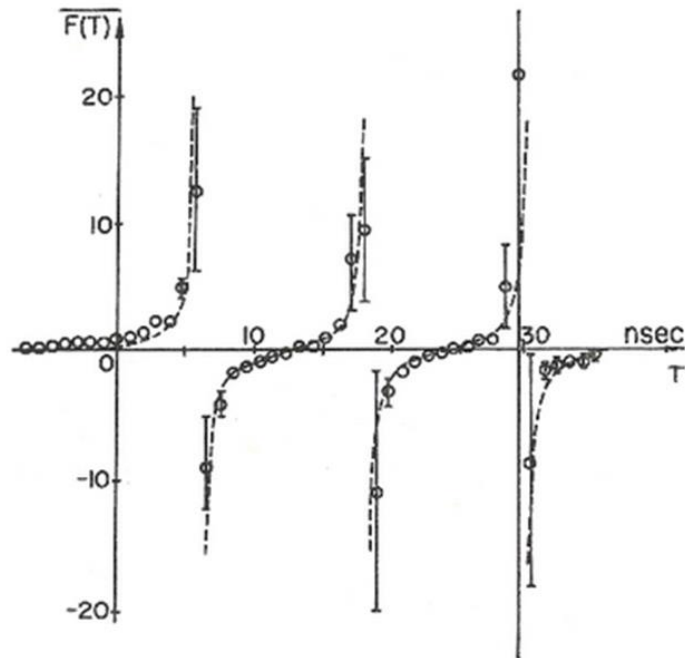


Fig. 56. The ratio  $F(T)$  for the  $\text{Ta}^{181}$   $\gamma$ - $\gamma$  directional correlation as a function of delay time  $T$ . (Bozck *et al.* <sup>361</sup>)

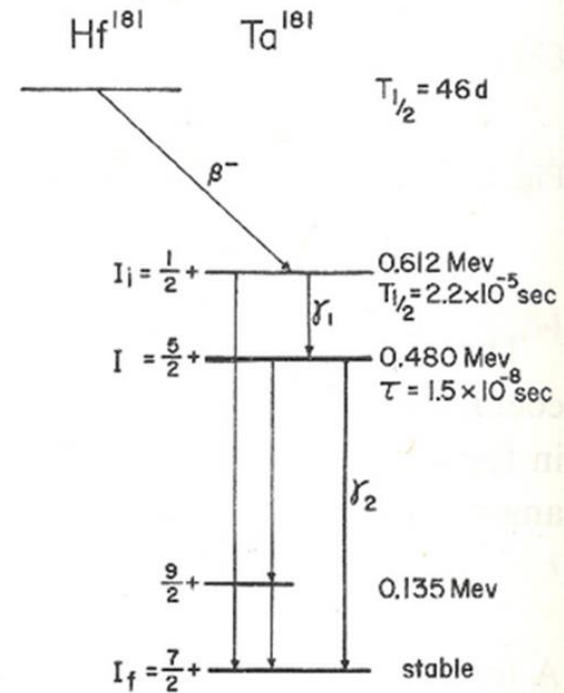


Fig. 57. The decay  $\text{Hf}^{181} \rightarrow \text{Ta}^{181}$

# 50th Anniversary of Zakopane School of Physics



\*  
\*  
**The magnets applied in g-factor measurements by gamma-gamma angular correlations; 3.5 and 1.8 tesla**



# 50th Anniversary of Zakopane School



**Spectroscopy experiments with early  
germanium detectors**

# 50th Anniversary of Zakopane School



**In-beam spectroscopy experiments at the Krakow U-120 cyclotron; alpha beams up to 28 MeV**

**Y**

# 50th Anniversary of Zakopane School



INSTYTUT FIZYKI JĄDROWEJ W KRAKOWIE

INSTITUTE OF NUCLEAR PHYSICS, CRACOW

REPORT No 299

MAGNETIC INTERACTION OF THE  $^{155}\text{Gd}$   
NUCLEUS IN THE 87keV EXCITED STATE  
WITH THE ELECTRONIC SHELL

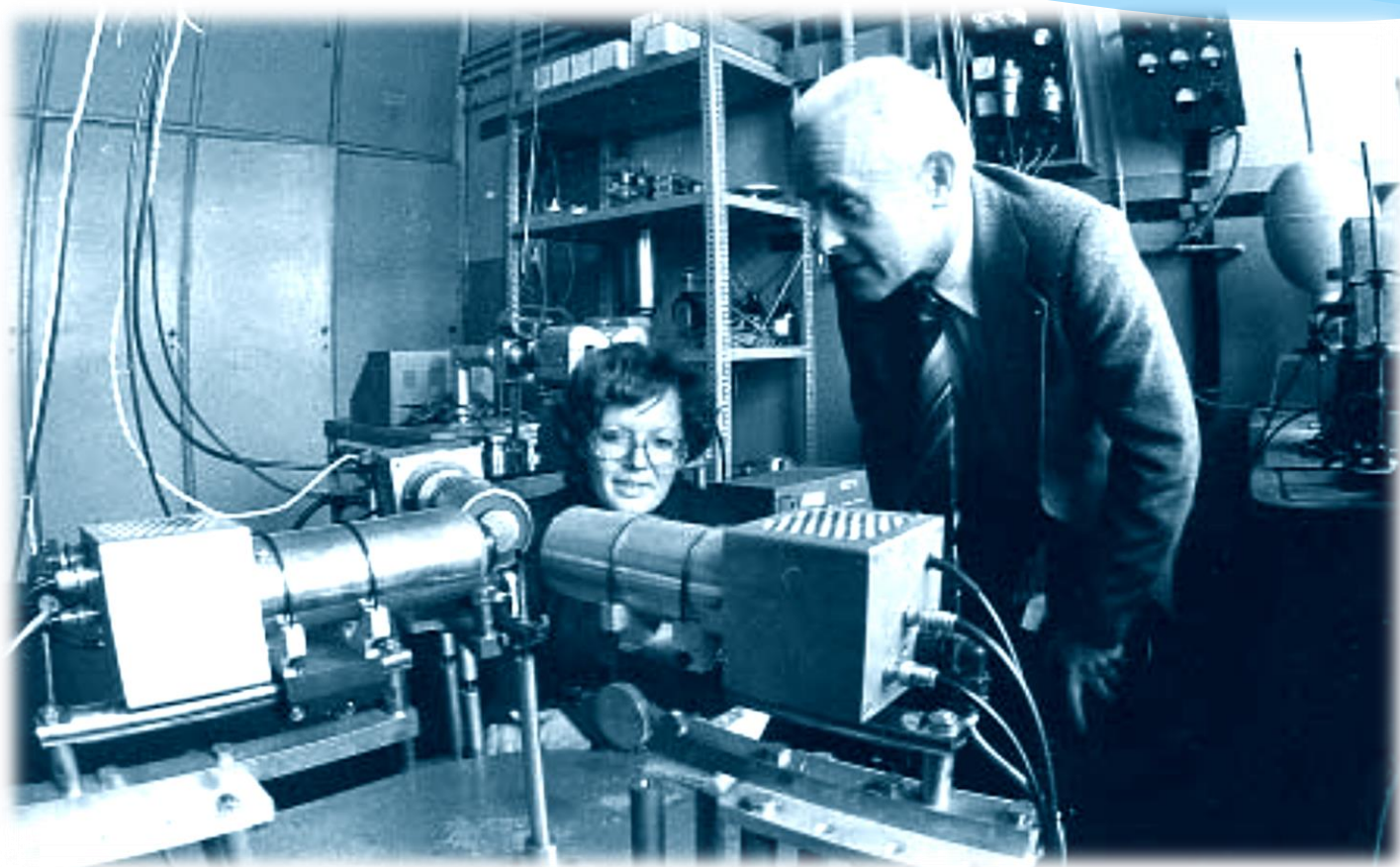
E. BOZEK, A.Z. HRYNKIEWICZ, S. OGAZA, J. STYCZEŃ

*Phys. Letters* 11 No 1 (1964) 63

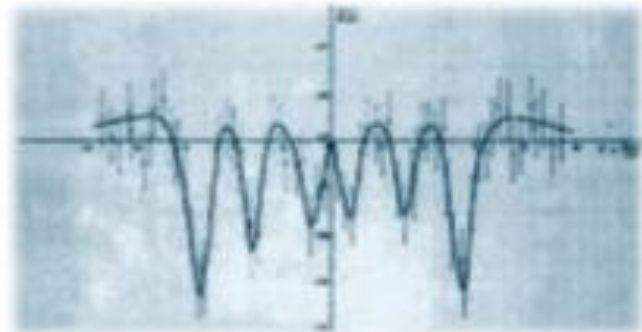
CRACOW

NOVEMBER, 1963

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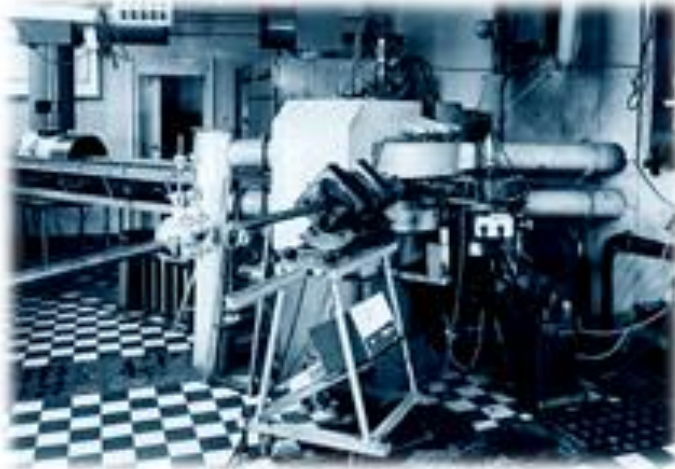
# 50th Anniversary of Zakopane School of Physics



**Mössbauer spectroscopy IF UJ (1961 the first spectra)  
and a bit later at IFJ**

# 50th Anniversary of Zakopane School

PIXE



**PIXE** experiments at C-48 cyclotron (constructed at IF UJ and moved to IFJ)



# 50th Anniversary of Zakopane School



2.5 MV VdG

and the chamber for PIXE...



...and the chamber for micro-PIXE

# 50th Anniversary of Zakopane School of Physics

- \* The early schools – gathered mostly the **Krakow society**
- \* Next schools involved participants from other scientific centres of Poland
- \* The first international school- **conference (!!)** took place in 1973 – (even earlier....1965)





# 50th Anniversary of Zakopane School of Physics

- \* In the 1973 International School participated several world known scientists : Frauenfelder, Steffen from US Goldansky from Soviet Union ....



30 years later



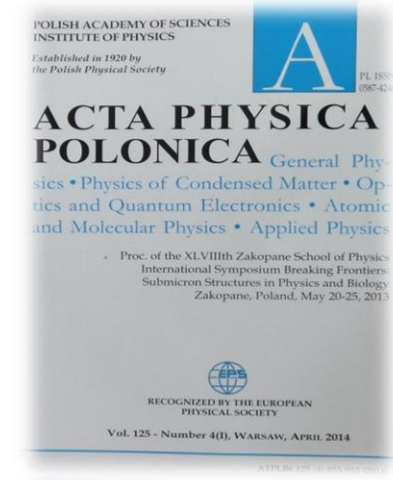
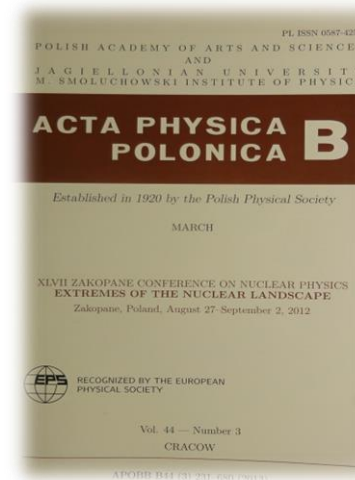
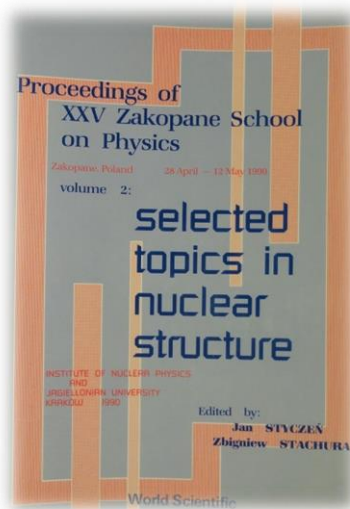
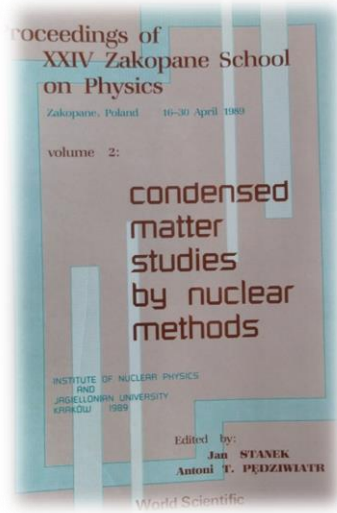
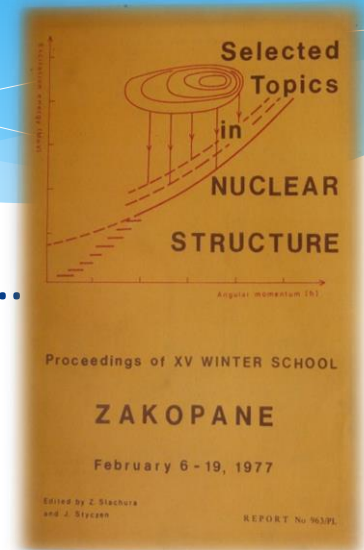
# 50th Anniversary of Zakopane School of Physics

- \* Little of documentation of early schools; no proceedings...

The first proceedings were issued in 1977...

Later – published in the World Scientific

Today – in Acta Physica Polonica A and B Journal



# 50th Anniversary of Zakopane School of Physics

- \* *Entertainment* – skiing, walking, hiking, excursions, singing, dancing.... We considered it as rather important to have and enjoy a relatively **long break after lunch**



# 50th Anniversary of Zakopane School of Physics

- \* After 1981 (Marshal law), we **began to separate (1984)** nuclear physics aspects from those of condensed matter studied with nuclear methods.
- \* Each school still lasted for **two weeks** – one week was devoted to nuclear physics the other one to the condensed matter studies.
- \* Since 1990, each school has been organized **every second year**:
- \* ***even years*** – nuclear physics studies program (in September, in interchange with Warsaw School at Mazurian lake district);
- \* ***odd years*** – condensed matter studies program

# 50th Anniversary of Zakopane School of Physics

- \* It should be stressed out that before 1990 – for many, the schools were the only the way for participants from Eastern Europe to make contacts with colleagues from the Western part separated with the **Iron Wall** which prevented communications; (DDR physicist).
- \* Discussions of **the newest results** – **very hot** from laboratories



# 50th Anniversary of Zakopane School of Physics

- \* The list of persons who have been involved in the organization of the Zakopane Schools would be a long list – hard to present.
- \* Let me point out, however, two persons without whom the Conference would have not been continued in my opinion:
  - \* ***Dr Stanisław Szymczyk†***
  - \* ***Dr Maria Rybicka***

# 50th Anniversary of Zakopane School of Physics

Thank you very much for your attention!

Wishes of very exciting Conference!