

# Potential of the COSY11 facility

$$pp \rightarrow pp \eta$$

$$pd \rightarrow pd \eta / {}^3\text{He} \eta$$

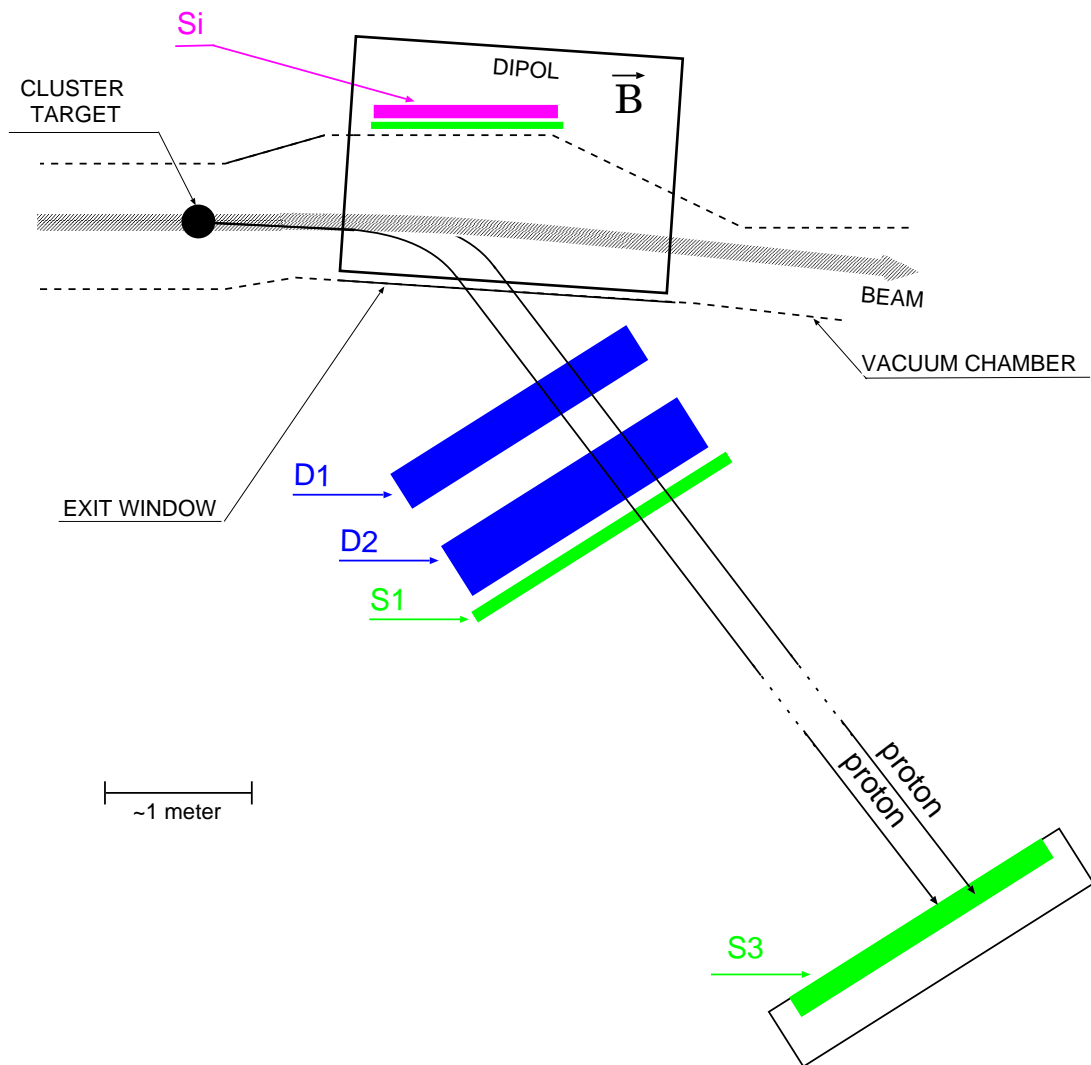
$$pn \rightarrow pn \eta$$

$$\vec{p} \rightarrow pp \eta$$

Hadron Physics at COSY  
7 - 11 July, 2003, Bad Honnef  
Joanna Przerwa

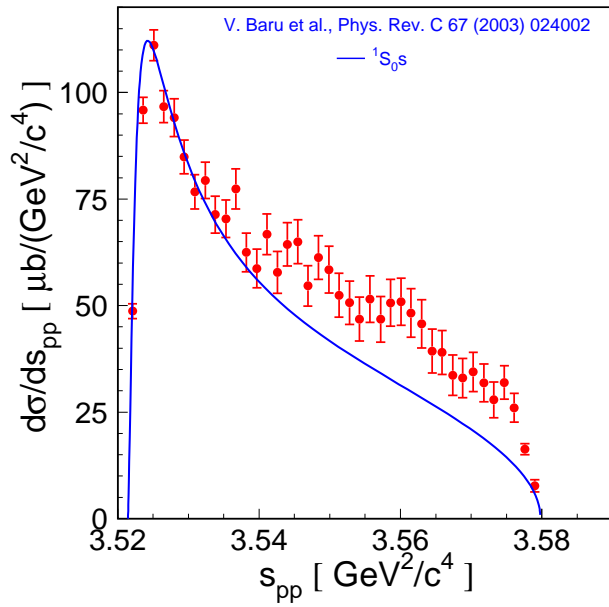
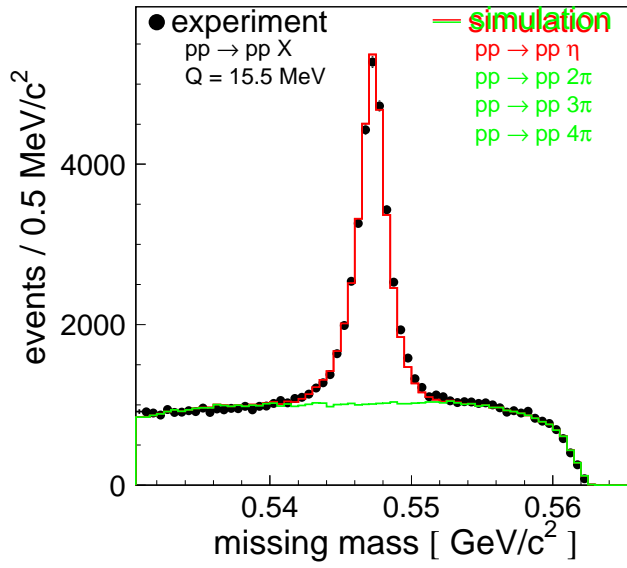
$$pp \rightarrow pp \eta$$

$p_b$   $p_t$  ,  $p_{p_1}$   $p_{p_2}$  are measured



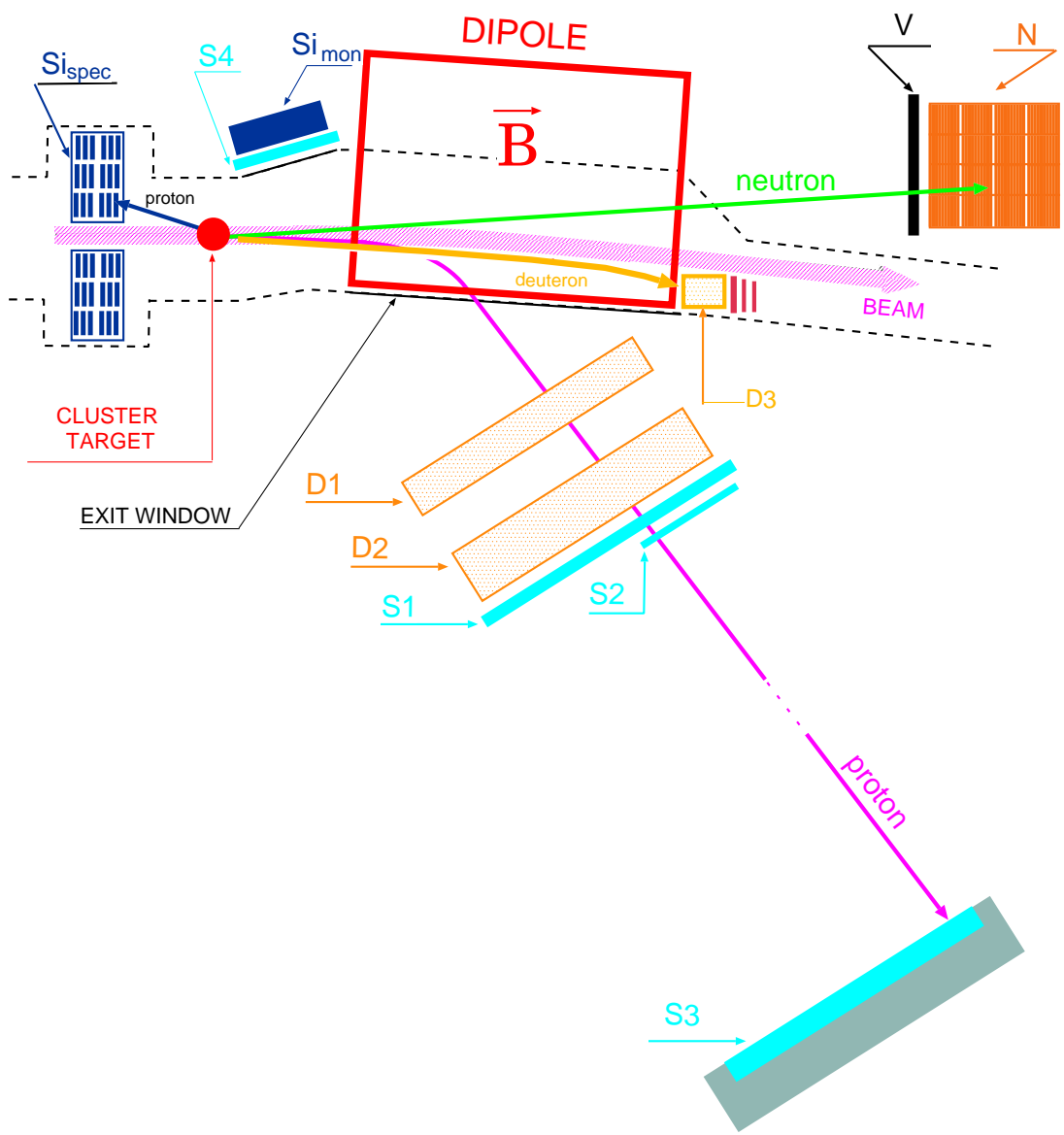
$$p_x = p_b + p_t - p_{p_1} - p_{p_2}$$

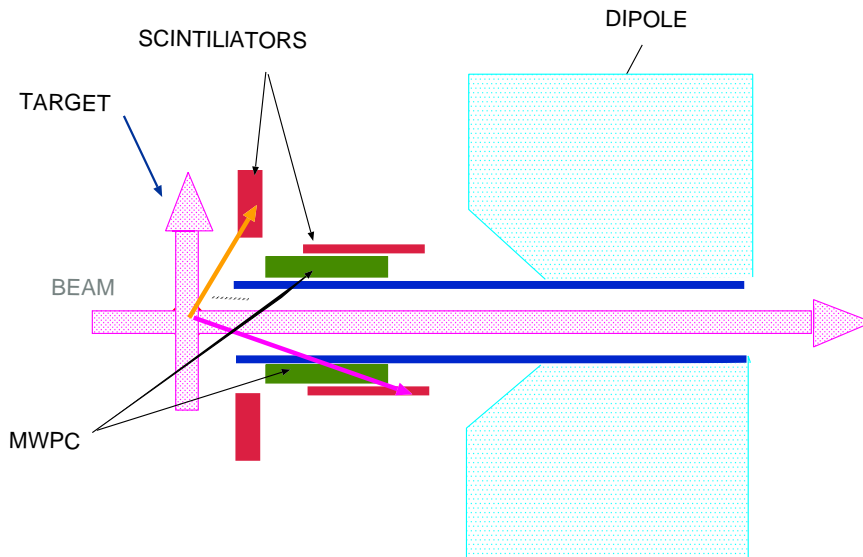
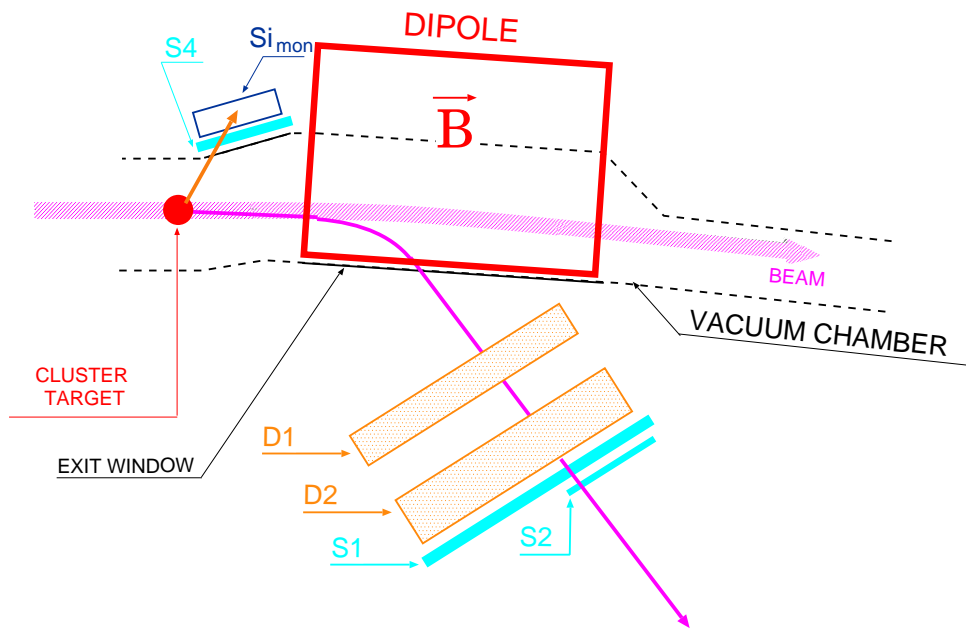
$$|p_x|^2 = m_x^2$$



$$\sigma|\vec{p}| \approx 4MeV/c$$

$$\sigma(\sqrt{S_{pp}}) \approx 0.4MeV$$





Experiment:  $\vec{p}p \rightarrow pp\eta$

POLARIZATION

$$A_y$$

Literature:

LUMINOSITY

$$\frac{d\sigma}{d\Omega}$$

$$NN \rightarrow NN \eta$$

$$Nd \rightarrow Nd \eta$$

$p_N, p_d$  are measured

$\eta$  is identified via the missing mass technique

$\sigma$  - total cross section

$\frac{d\sigma}{dx}$  - differential cross section

$\sigma(Q)$  - excitation function