Energy Spread and Asymmetry Considerations for SuperB

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SuperB Factory Workshop
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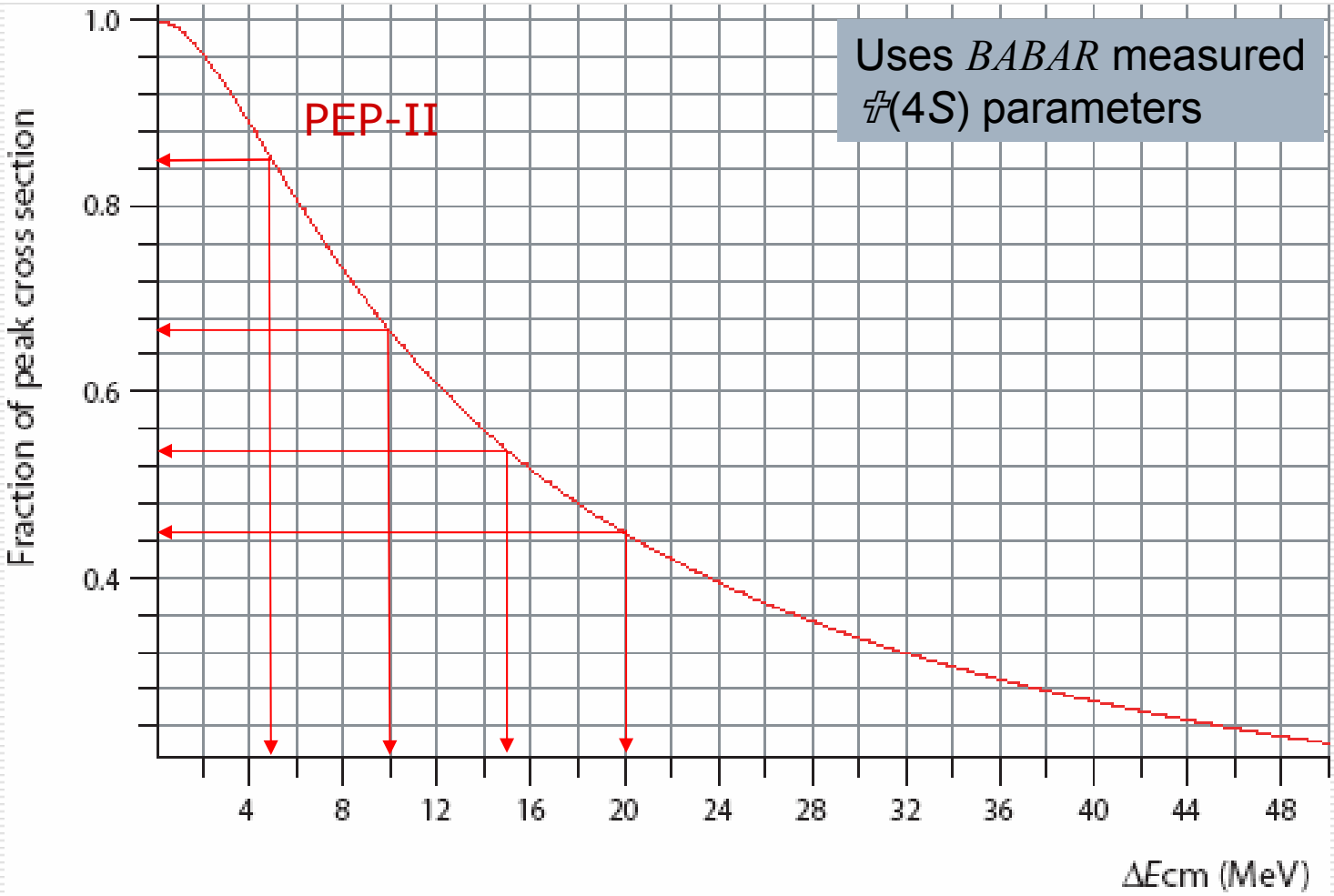
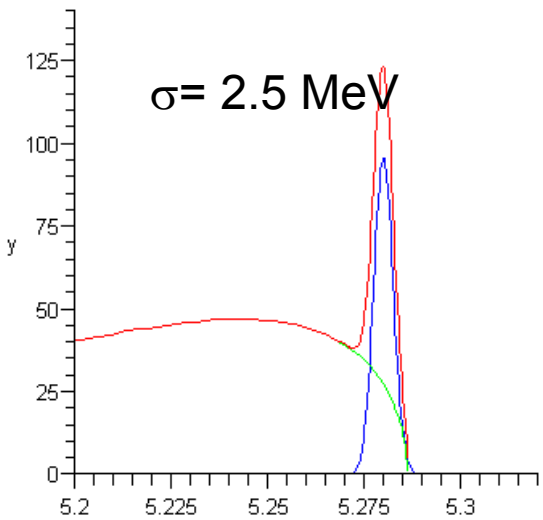
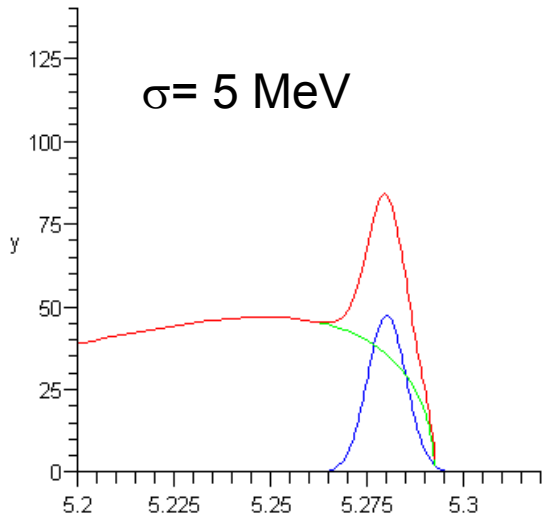
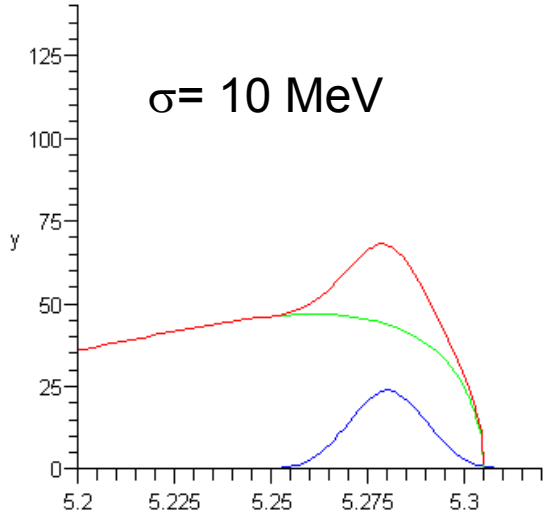
Beam energy spread determines the effective cross section on the $\Upsilon(4S)$ resonance



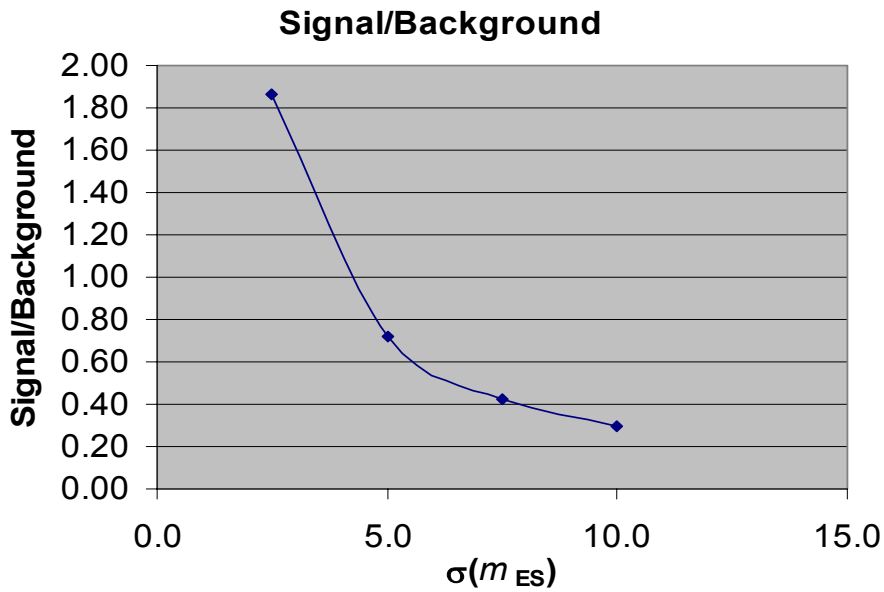
CM energy resolution influences m_{es} resolution







This is a crude first estimate:
Gaussian signal
ARGUS background
(not yet a fit)



Energy asymmetry influences wall plug power

Lowest possible asymmetry is thus desirable,…….

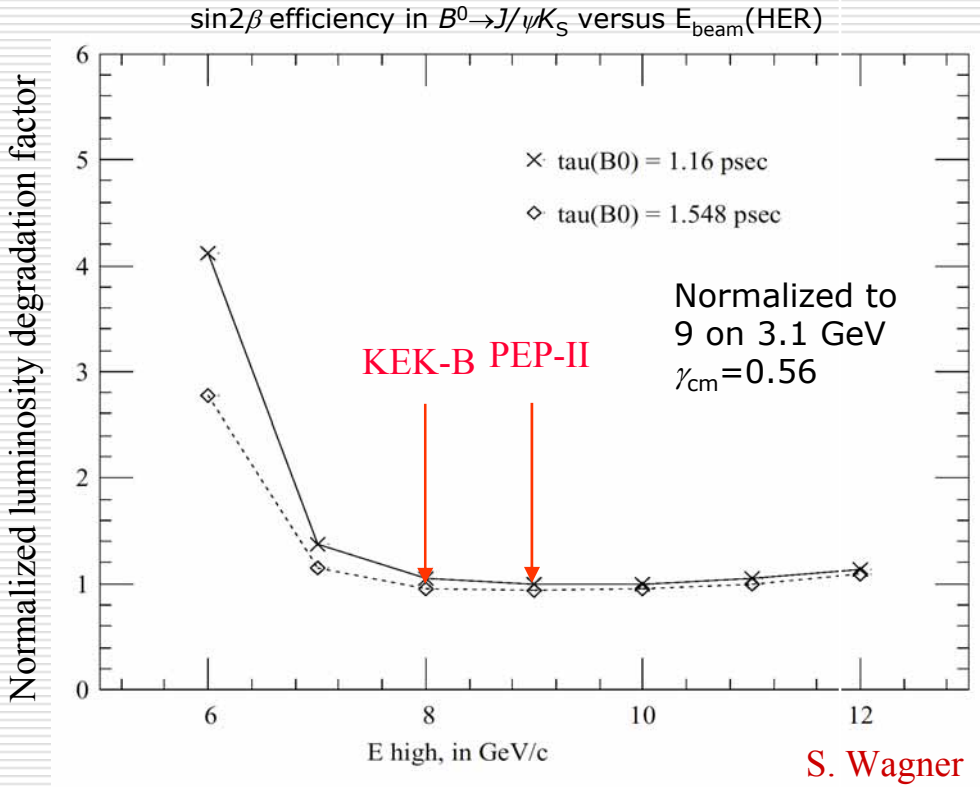
BUT

1) Δz resolution/$\beta\gamma$
2) charm, *uds* background

Smaller radius and therefore, thinner, beampipe will help,

but there is also tension with lost particle beam background, synchrotron radiation masking, etc.

Requires a careful optimization, taking all these factors into account



Much better calculations are now available: Nicola, Maurizio