

First results on H and A production with linear photon polarization

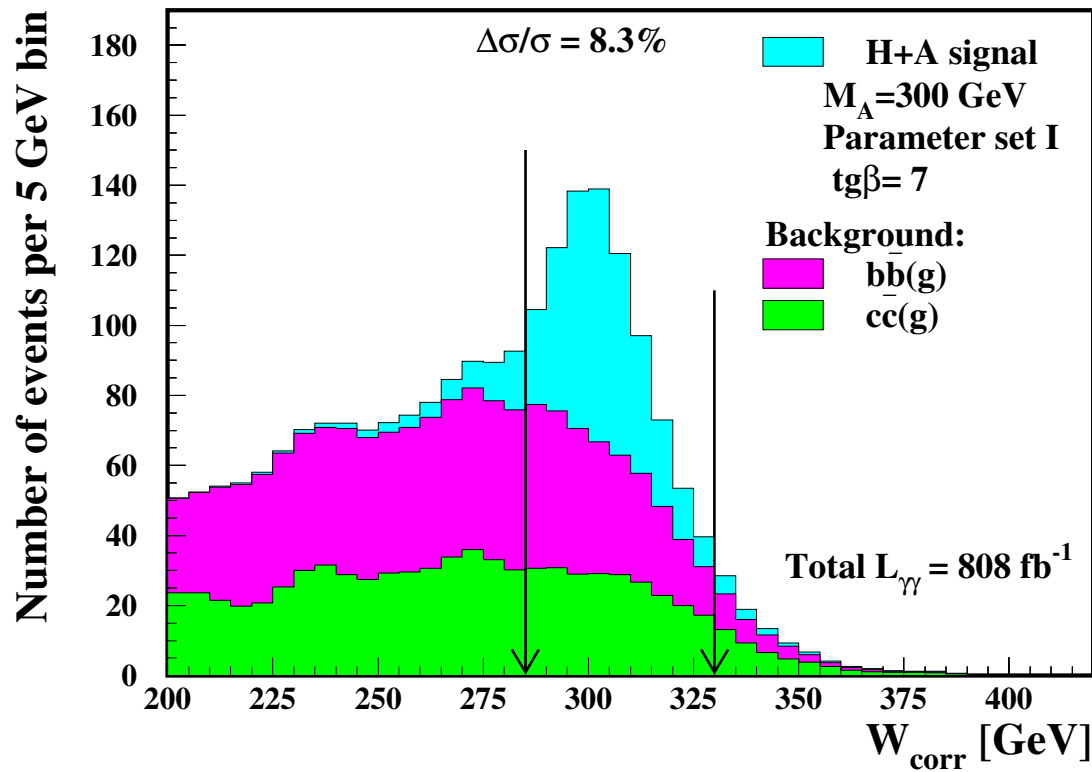
A.F. Żarnecki
Warsaw University

Outline

- Spectra
- Invariant mass distributions
- Some comments

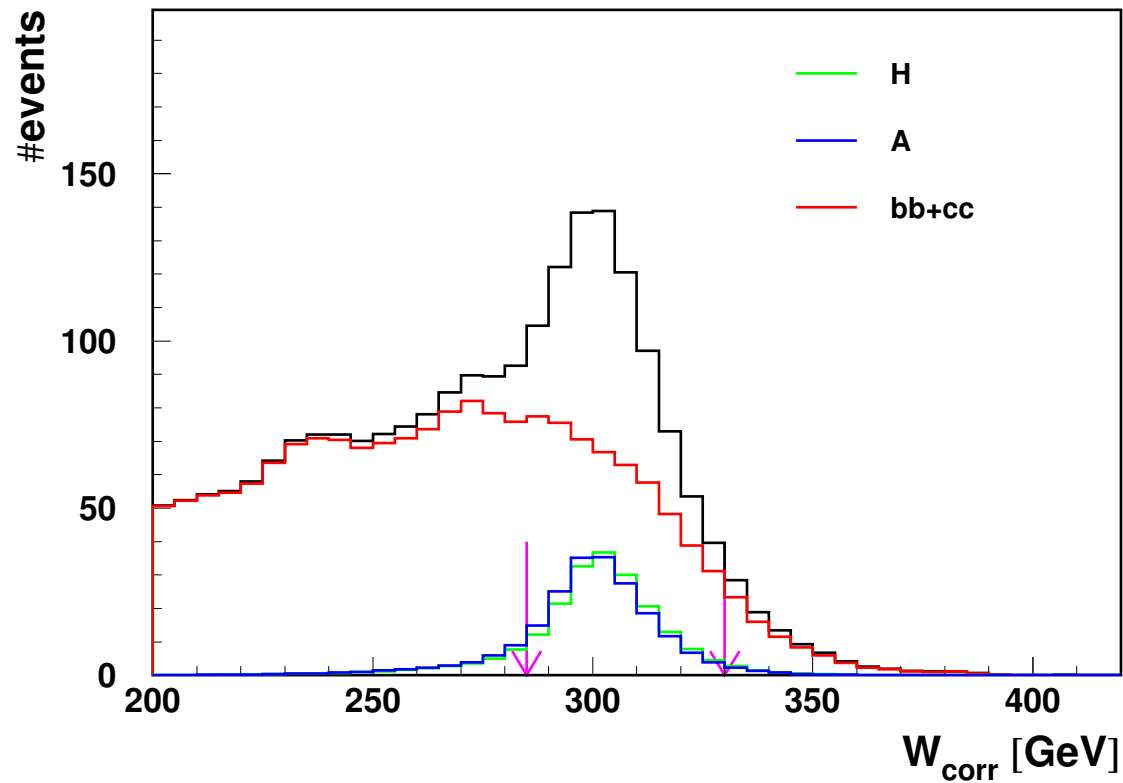
VERY PRELIMINARY !!!

NZK MSSM analysis



only $b\bar{b}(g)$ and $c\bar{c}(g)$ background !!! $S/B \approx 0.7$

H and A contributions

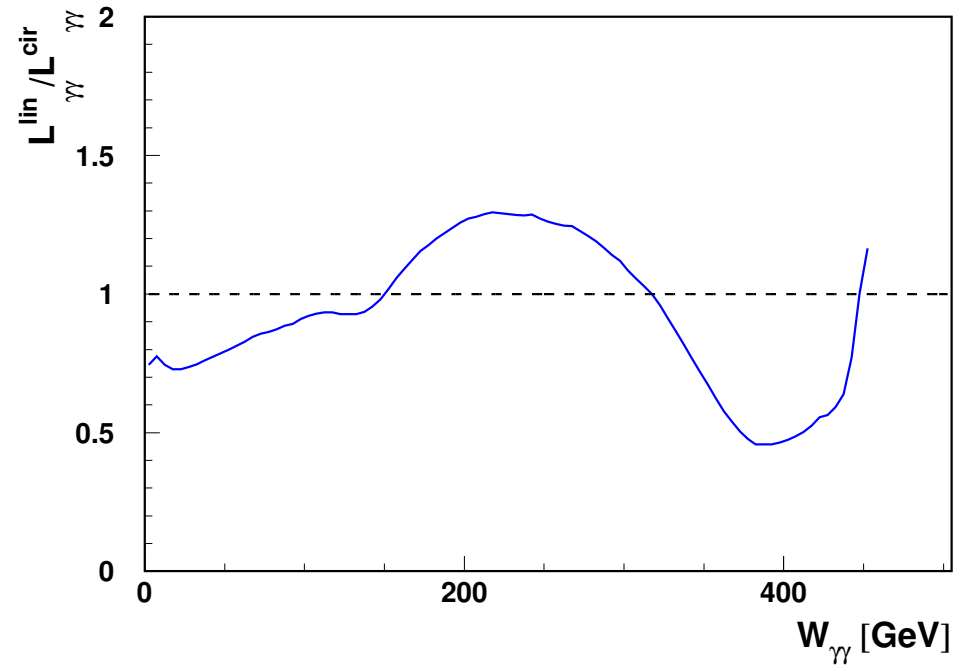
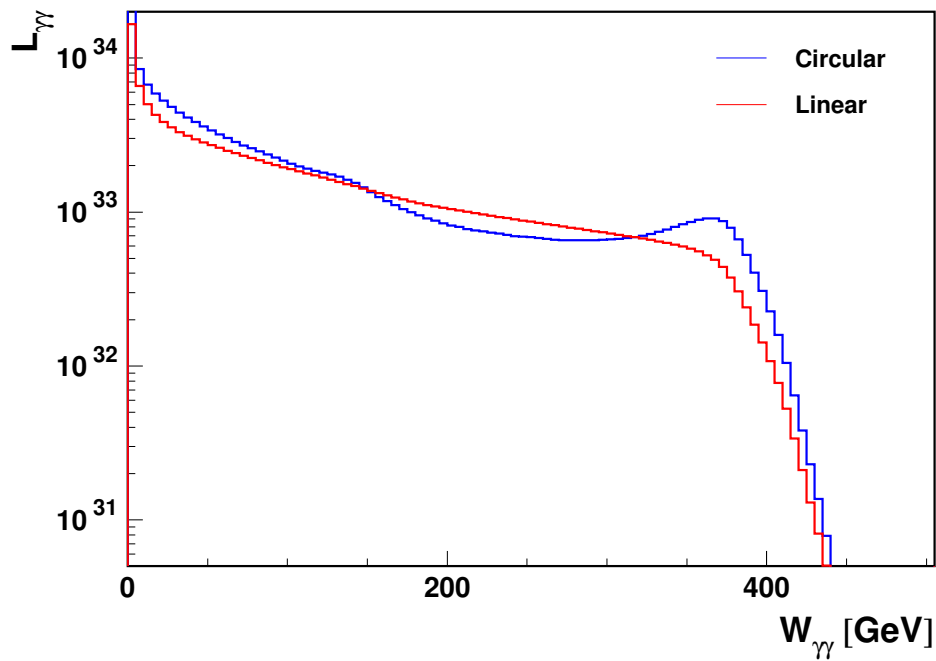


We can not distinguish H and A contributions \Rightarrow linear beam polarization needed

Luminosity

Luminosity spectra for linear laser polarization. $E_e = 250$ GeV

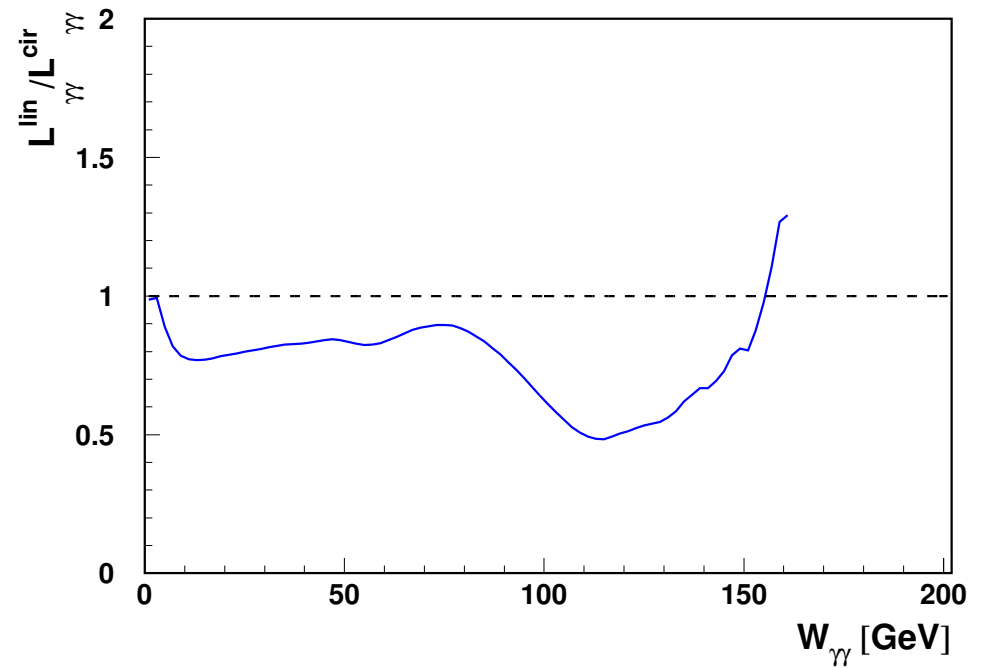
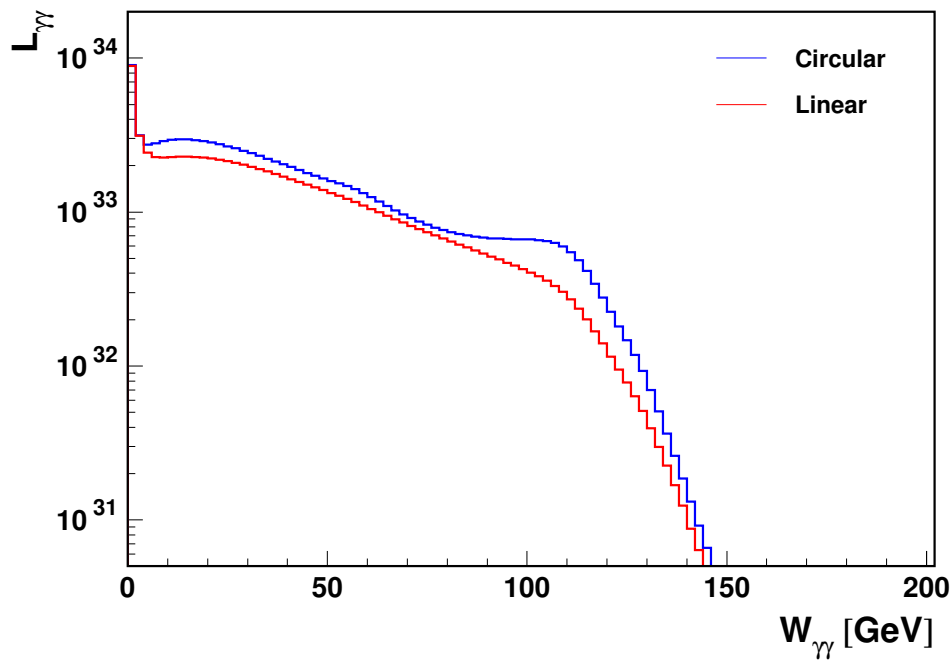
CAIN simulation results



Luminosity

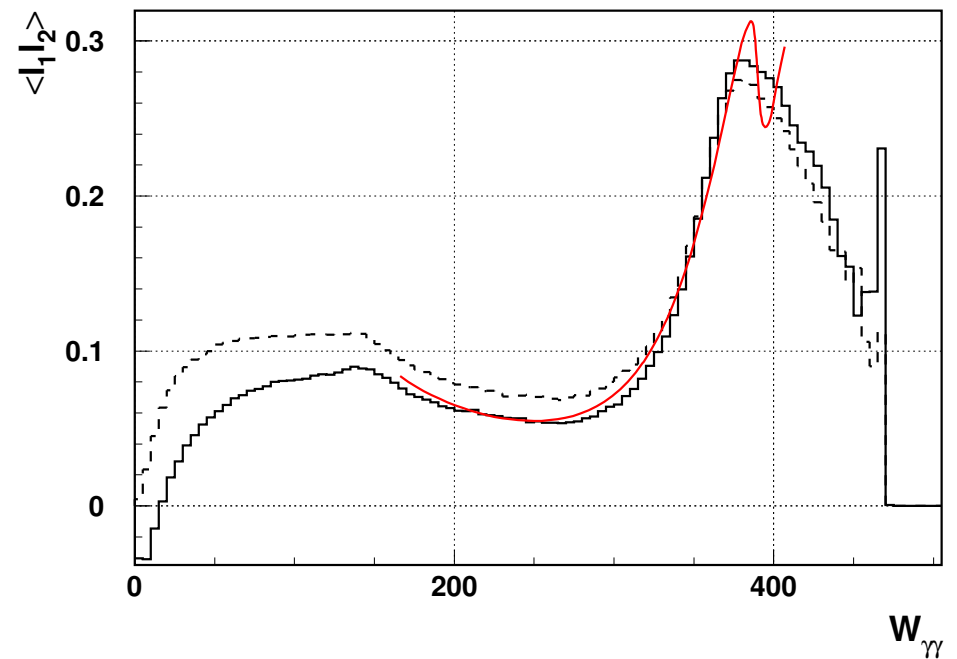
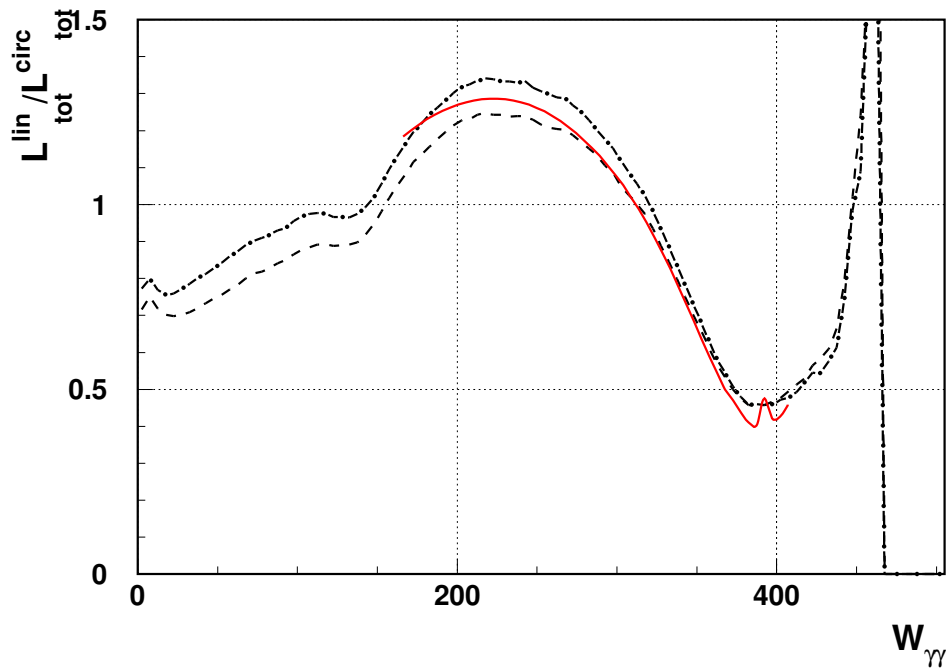
Luminosity spectra for linear laser polarization. $E_e = 100$ GeV

CAIN simulation results



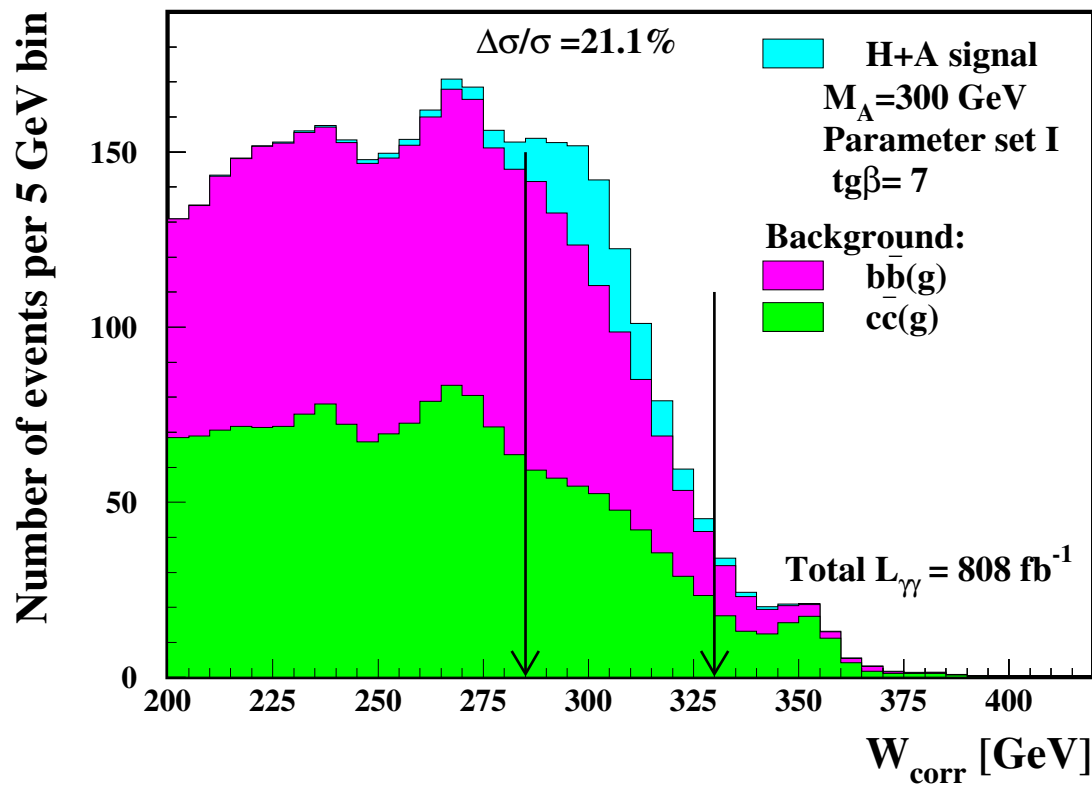
Spectra parametrization

CompAZ parametrization modified to describe leading effect



Invariant mass

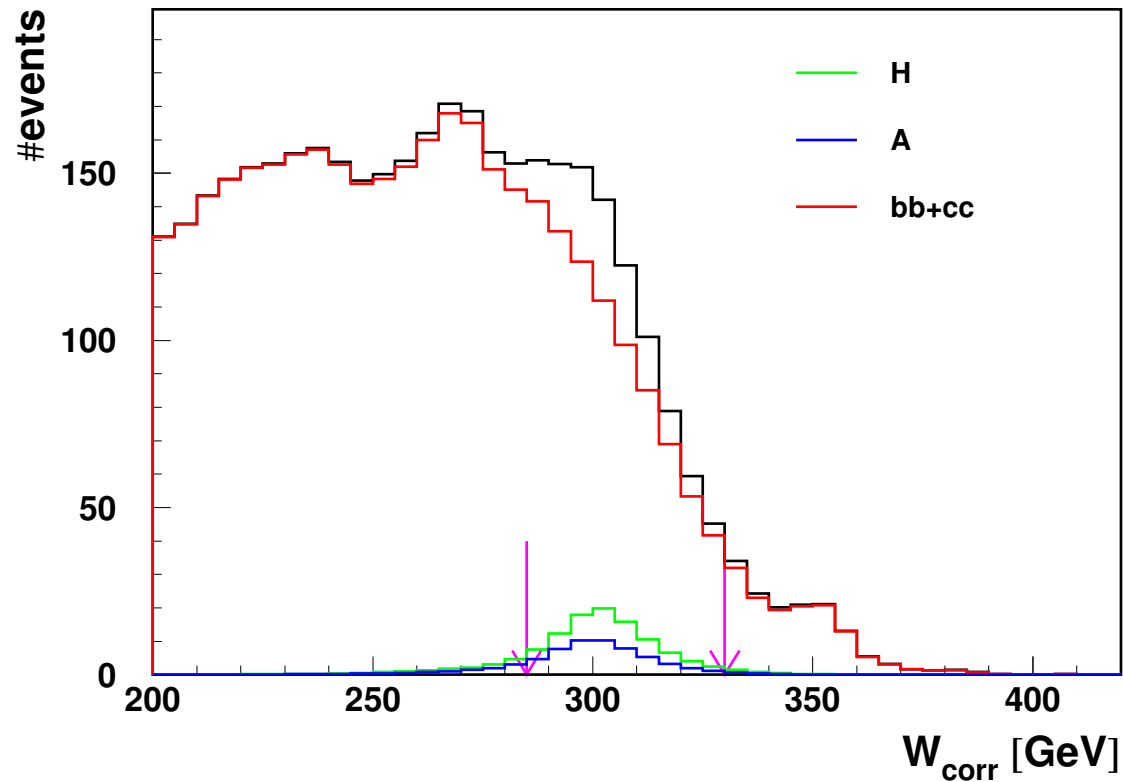
Invariant mass distribution after event reweighting to linear polarization



Background increases by factor ~ 1.6 . Signal down by factor ~ 2.4 !

$S/B \approx 0.2$

Summary



H+A production signal can be measured with linear polarization,
but statistical errors increase significantly.

Determination of production cross section separately for H and A: ?