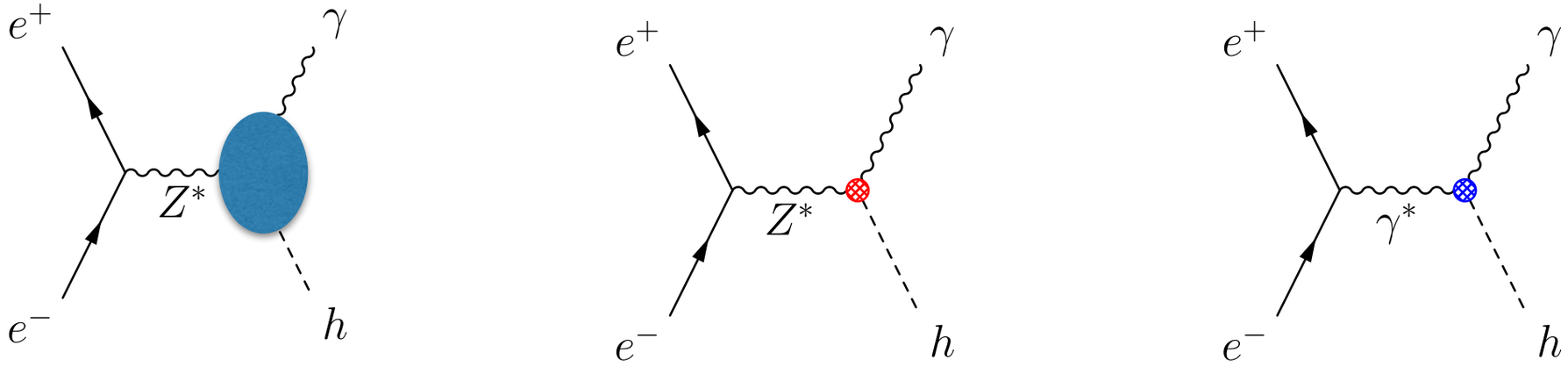
theoretical framework

effective Lagrangian for e+e- —> γH

$$L_{\gamma H} = L_{\mathrm{SM}} + \frac{\zeta_{AZ}}{v} A_{\mu\nu} Z^{\mu\nu} H + \frac{\zeta_A}{2v} A_{\mu\nu} A^{\mu\nu} H$$



$c_{\gamma Z}$: effective coupling between Higgs and γZ
c_{γ} : effective coupling between Higgs and γγ
Aμv, Zμv : field strength

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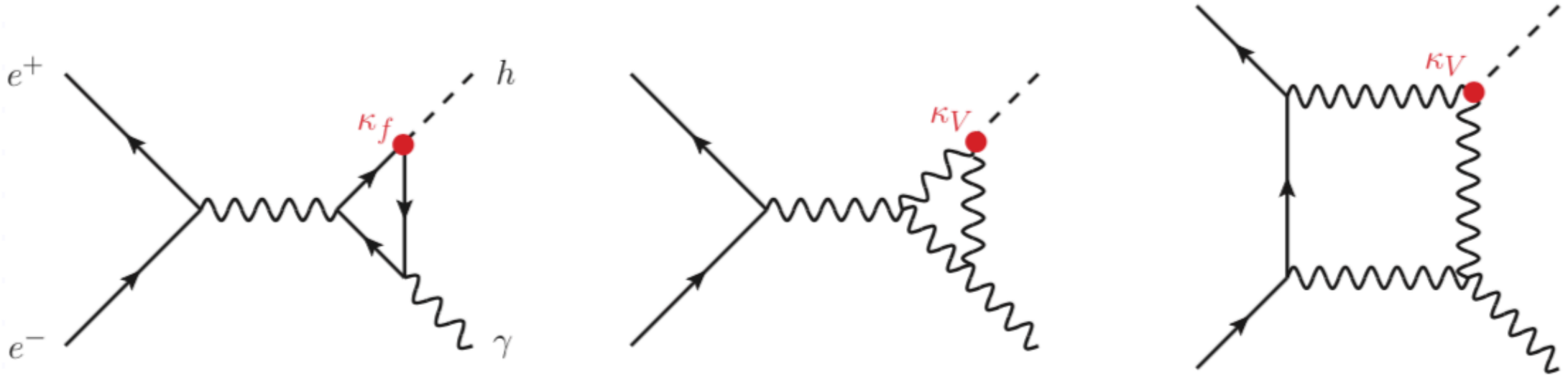
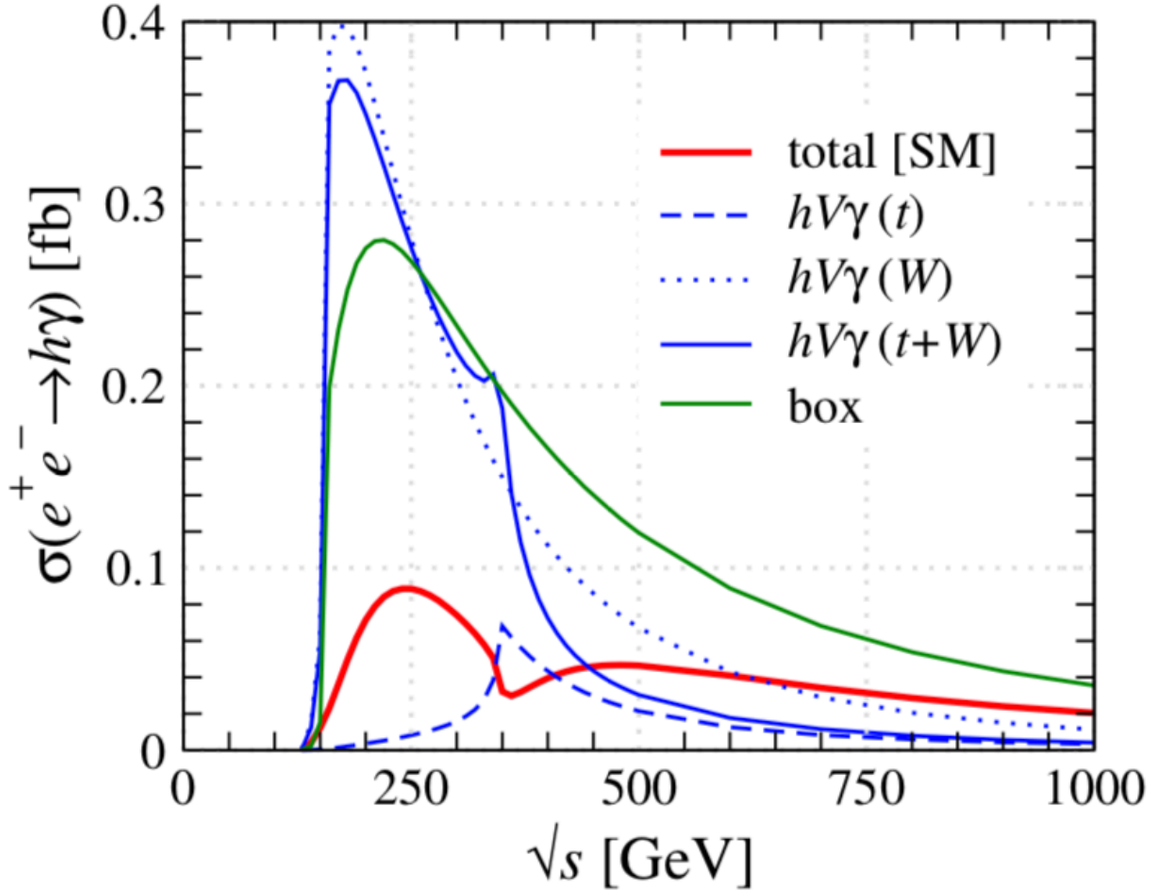
SM one-loop calculations





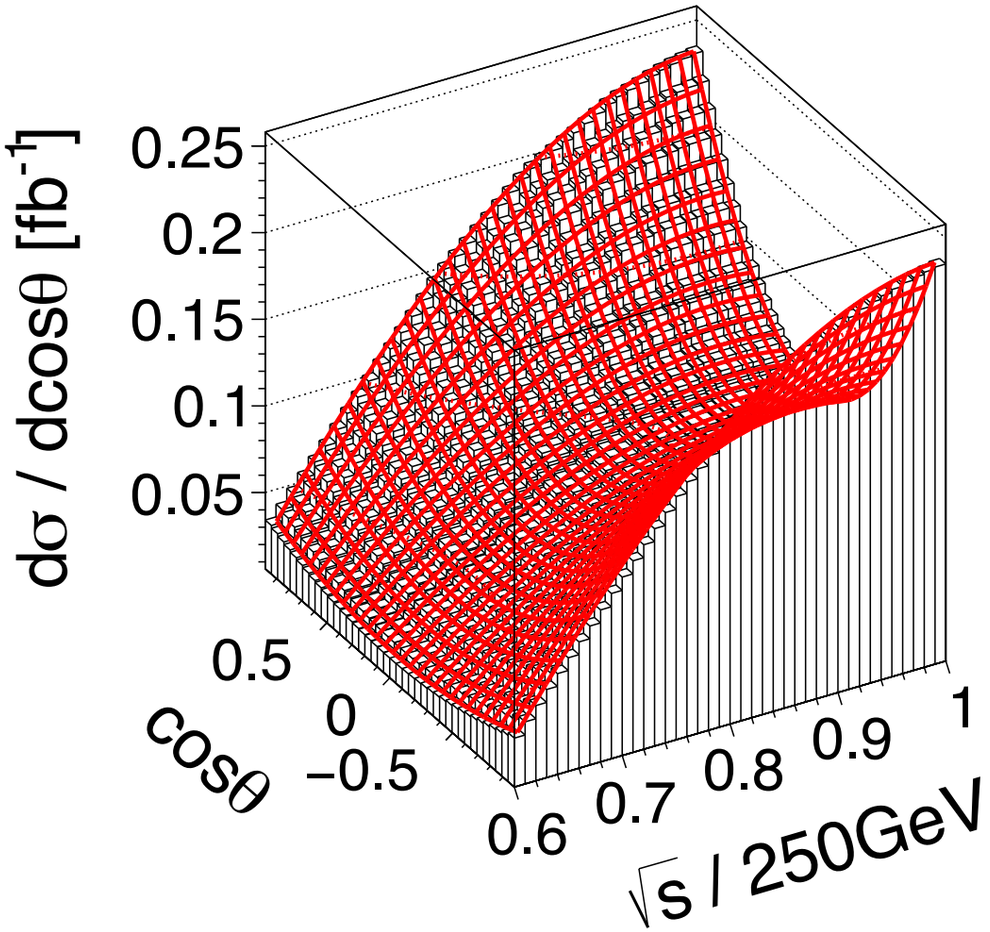
theorists collaborators also supplied numerically

$$\frac{\mathrm{d}\sigma}{\mathrm{d}\cos\theta_\gamma}$$

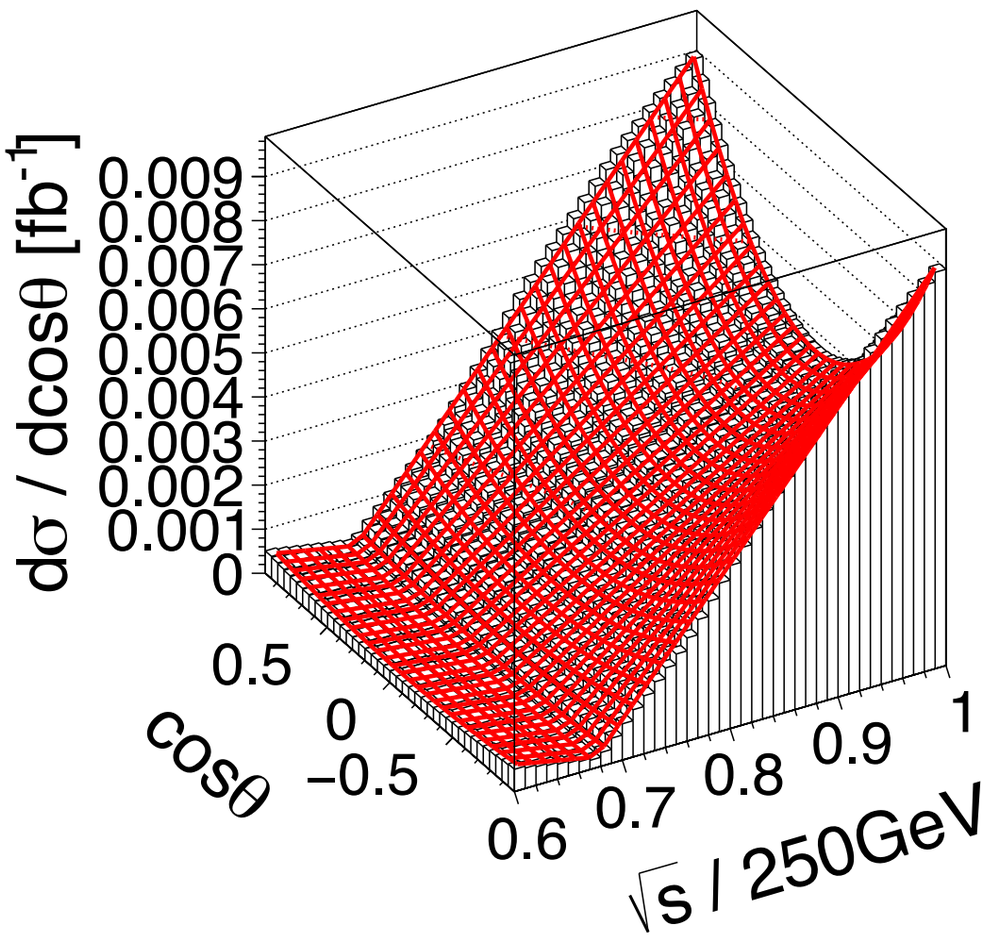
new event generator

- earlier generator was implemented with only EFT, without SM loop
- what's new is an implementation of parameterized SM differential cross section, by which impact of ISR on total cross section is also naturally taken into account

eL.pR



eR.pL



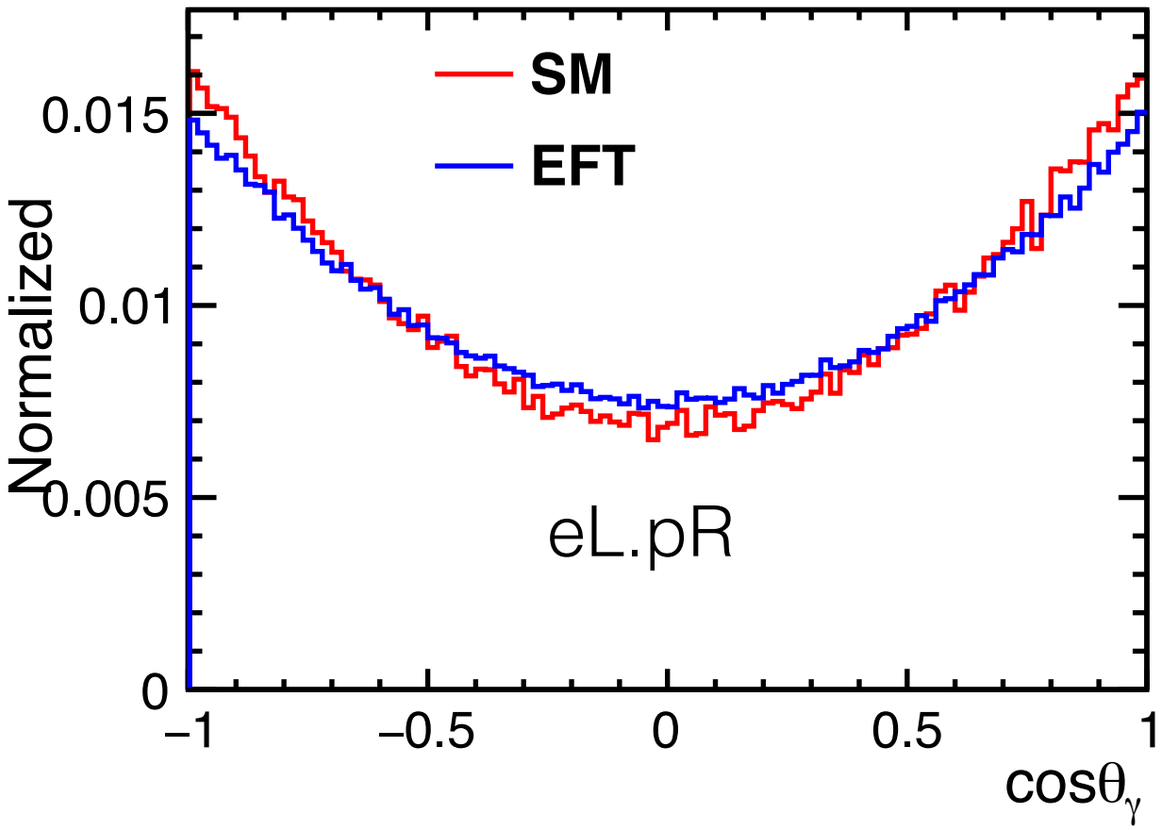
Lego: numerical calculation; Mesh: polynomial parameterization

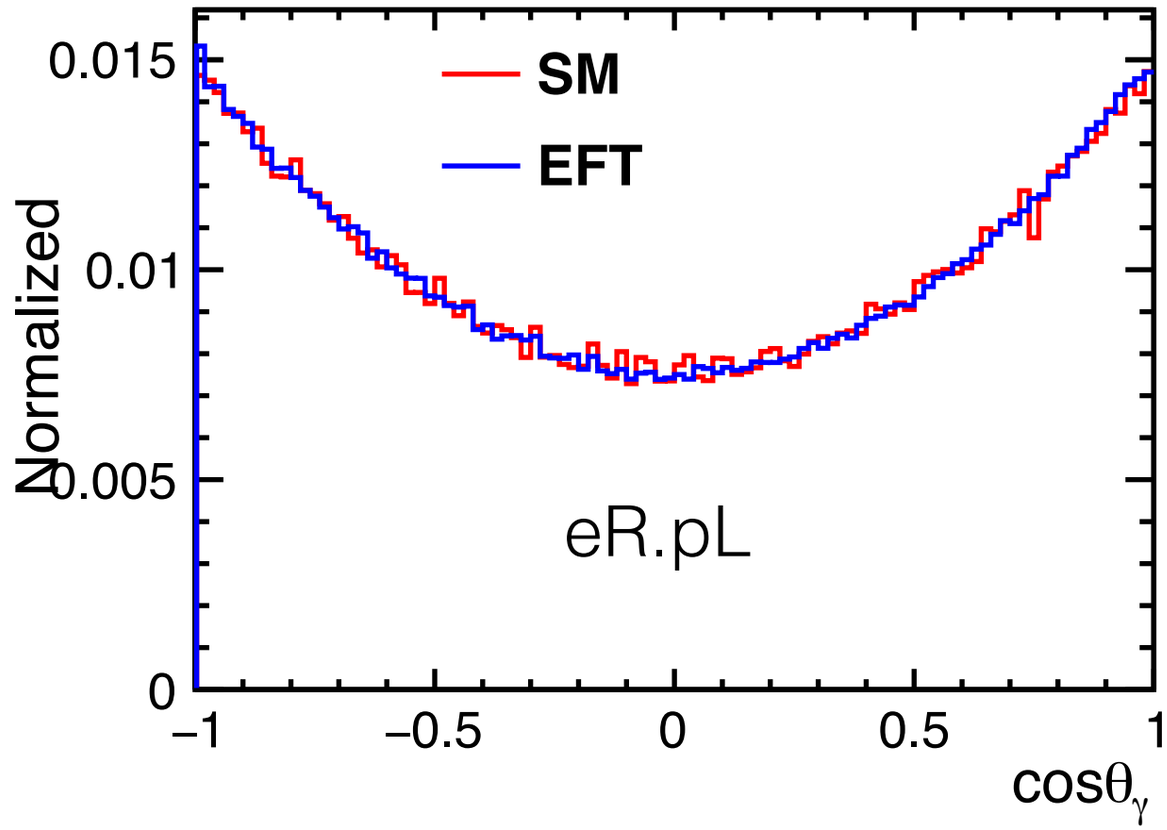
new generator: potential impact on analysis

total cross section (SM):

	earlier	now
eL.pR	0.293 fb	0.280 fb
eR.pL	0.0126 fb	0.0111 fb

angular distribution:





EFT works unexpectedly well: top/W are already pretty dam heavy at 250 e+e-!

new generator: potential impact on analysis

photon energy distribution: