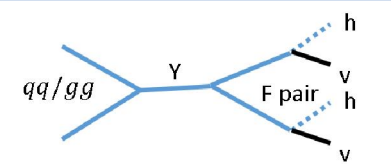
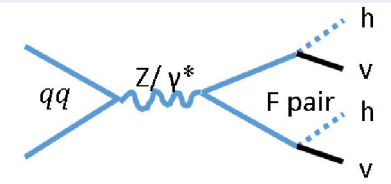
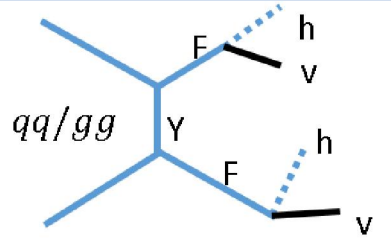


Full model

model	results
Minimal B-L	H2 as intermediate: 1. $M_{H2} < 1\text{TeV}$, not boosted enough 2. $\text{Cross-section} \cdot \text{Br} \sim 0.01\text{fb}$ Zp as intermediate : $\text{Cross-section} \cdot \text{Br}$ might be higher
BLSSM	Higher $\text{Cross-section} \cdot \text{Br}$
MSSM	$p p \rightarrow \chi_2 \chi_3 \rightarrow \chi_1 h \chi_1 h$ $\text{Cross-section} \cdot \text{Br} \sim 0.1\text{fb}$

Previous comments from Sasha

Diagram	Comments
	<p>F stands for Father of higgs Y = scalar F=fermion</p> <p>Parameter: mass Y, mass F, width Y</p>
	<p>F = fermion Low cross-section Parameter: mass F</p>
	<p>qq: Y = scalar or vector (color triplet) gg: Y = F = fermion with color</p> <p>Parameter: not determined</p>

Undecided

Diagram	Comments
 <p>A Feynman diagram showing the annihilation of a quark-antiquark pair (qq) or gluon-gluon pair (gg) into a photon (γ). The photon then splits into a fermion pair (F pair) and a scalar particle (h). The scalar particle is labeled <u>DM:scalar</u>.</p>	
 <p>A Feynman diagram showing the annihilation of a quark-antiquark pair (qq) into a Z/γ^* boson. The boson then splits into a fermion pair (F pair) and a scalar particle (h). The scalar particle is labeled <u>DM:scalar</u>.</p>	
 <p>A Feynman diagram showing the annihilation of a quark-antiquark pair (qq) or gluon-gluon pair (gg) into a photon (γ). The photon then splits into two fermion pairs (F pair). Each fermion pair is associated with a scalar particle (h), and both scalars are labeled <u>DM:scalar</u>.</p>	

Undecided

Diagram	Comments
 <p>A Feynman diagram showing the production of a fermion pair (F pair) and two Higgs bosons (h) via a photon (γ). The initial state is labeled qq/gg. The photon splits into a fermion pair (F pair) and a Higgs boson (h). The Higgs boson then splits into another fermion pair (F pair) and a Higgs boson (h). The final state is labeled $DM:vector$.</p>	
 <p>A Feynman diagram showing the production of a fermion pair (F pair) and two Higgs bosons (h) via a Z boson or virtual photon (Z/γ^*). The initial state is labeled qq. The Z boson splits into a fermion pair (F pair) and a Higgs boson (h). The Higgs boson then splits into another fermion pair (F pair) and a Higgs boson (h). The final state is labeled $DM:vector$.</p>	
 <p>A Feynman diagram showing the production of a fermion pair (F pair) and two Higgs bosons (h) via a photon (γ) and a fermion (F). The initial state is labeled qq/gg. The photon splits into a fermion pair (F pair) and a Higgs boson (h). The Higgs boson then splits into another fermion pair (F pair) and a Higgs boson (h). The final state is labeled $DM:vector$.</p>	

Undecided

Diagram	Comments
	
	
	

Plans:

- Validation & benchmark
- Theoretical paper ?
- Report in LHC DM forum?