Inclusive Cross Sections at the LHC (fb)			
$pp \to 3t$ (Total)	$\sqrt{s} = 7$ TeV	10 TeV	14 TeV
Z' model	4.0	12	28
$pp \to tt\bar{t}$	3.8	11	26
$pp \to t\bar{t}\bar{t}$	0.20	0.75	2.2
MSSM	0.97	7.9	41
$pp \to tt\bar{t} + \bar{b}\chi_i^- \chi_j^0$	0.49	4.0	21
$pp \to t\bar{t}\bar{t} + b\chi_i^+ \chi_j^0$	0.49	4.0	21

TABLE III: LO inclusive cross sections for triple-top production at the LHC for three different center-of-mass energies. In MSSM, the final state neutralinos and charginos have been summed over.

above the SM prediction. Each model will also involve different topologies and kinematics which may allow them to be distinguished with this signal, given enough data. The SM triple-top events will often be associated with an extra W-boson or extra tagged b-quark, while the MSSM events would feature large $\not{E}_T$ due to the neutralinos escaping the detector. The Z' model would best be characterized by the absence of these additional states and may also be distinguished by the presense of a broad pseudo-rapidity distribution of one top due to the t-channel exchange of the Z'-boson[3]

However, despite the large increase in cross section at all energies and distinct topologies, the actual detection of the triple-top signal for the models discussed here would likely not be possible for the initial run of the LHC at 7 TeV center-of-mass energy and with 1 fb^{-1} of integrated luminosity. Indeed, the given BSM models may be discovered through other signals before triple-top events can even be identified. For example, in the Z' model, there are large cross sections for same-sign top production at 7 TeV (~ 50 pb at LO) that would likely lead to discovery, and the MSSM could possibly be inferred at these lower energies from generic missing energy searches. If supersymmetry has eluded detection during this initial run, however, the triple-top signal could prove to be an important part of detection

[3] When the tops are ordered by p_T, we find that the low-p_T t (as opposed to the $\bar{t}$) in the $tt\bar{t}$ events occurs with $|\eta| > 2$ in $\approx 60\%$ of the events in the Z' model, compared to $\approx 30\%$ in the SM and $\approx 16\%$ in the focus point region of the MSSM. This was based on an analysis of 10,000 unweighted events.