cases	doc_1		doc_2		decision	id
	authors	• Chaudhuri, Shyamoli	**authors**	• Chaudhuri, Shyamoli	NOT DUPLICATES	1213
	title	CHL Compactifications Revisited	**title**	CHL Compactifications and Beyond		
	publication_date	2005-01-01 00:00:00	**publication_date**	2005-08-22 00:00:00		
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	urls	• http://arxiv.org/abs/hep-th/0508146	**urls**	• http://arxiv.org/abs/hep-th/0508147		
	id	id4118920239071306654	**id**	id4894749517371099 52		
	abstract	CHL compactifications are supersymmetry preserving orbifolds of any perturbatively renormalizable and ultraviolet finite ground state of the perturbative string theories: heterotic, type I, or type II, preserving 32, 16, 12, 8, 4, (or zero) supersymmetries, and retaining the perturbative renormalizability and finiteness of the parent string vacuum. In this paper, we review the genesis of the CHL (Chaudhuri-Hockney-Lykken) project within the broader context of the full String/M Duality web, establishing the existence of moduli spaces with a small number of massless scalar fields, the decompactification of such moduli spaces to one of the five ten-dimensional superstring theories, and the appearance of electric-magnetic duality in only the four-dimensional moduli spaces, a 1995 observation due to Chaudhuri & Polchinski. We present two mathematical curiosities easily deduced from the fermionic current algebra representation but whose physical significance is a puzzle: a 4D N=4 heterotic string vacuum with no massless scalar fields other than the dilaton, and a 2D N=8 heterotic string vacuum with no abelian gauge fields, reiterating once more the necessity for a systematic classification of the CHL orbifolds.Comment: 17 pg	**abstract**	This is the transcript of a talk given at the 3rd Simons Workshop in Mathematics and Physics on July 26, 2005. We review the genesis of the CHL (Chaudhuri-Hockney-Lykken) project, explaining both its phenomenological goals and theoretical justification in light of the known vast proliferation of N=1 string vacua. We explain what a CHL compactification is, review some key results such as the construction of moduli spaces with a small number of massless scalar fields, the decompactification of such moduli spaces to one of five consistent ten-dimensional superstring theories, and the appearance of electric-magnetic duality in only the four-dimensional moduli spaces, a 1995 observation due to Chaudhuri & Polchinski.Comment: 7pgs. Transcript of talk given at the 3rd Simons Workshop on Mathematics & Physics, Jul 26 2005, SUNY-Stonybroo		
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