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Title:	Structural aspects of twin and pure twin groups
Authors:	Singh, Mahender (/jspui/browse?type=author&value=Singh%2C+Mahender)
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Abstract:	The twin group T_n is a Coxeter group generated by $n-1$ involutions and the pure twin group PT_n is the kernel of the natural surjection of T_n onto the symmetric group on n letters. In this paper, we investigate structural aspects of twin and pure twin groups. We prove that the twin group T_n decomposes into a free product with amalgamation for $n > 4$. It is shown that the pure twin group PT_n is free for $n=3,4$, and not free for $n \geq 6$. We determine a generating set for PT_n , and give an upper bound for its rank. We also construct a natural faithful representation of T_4 into $\text{Aut}(F_7)$. In the end, we propose virtual and welded analogues of these groups and some directions for future work.
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