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Title:	Skeleton Ideals of Certain Graphs, Standard Monomials and Spherical Parking Functions
Authors:	Kumar, Chanchal (/jspui/browse?type=author&value=Kumar%2C+Chanchal) Lather, Gargi (/jspui/browse?type=author&value=Lather%2C+Gargi) Sonica (/jspui/browse?type=author&value=Sonica)
Keywords:	Skeleton Graphs Standard Monomials
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Abstract:	Let G be a graph on the vertex set $V = \{ 0 , 1 , \ldots , n \}$ with root 0 . Postnikov and Shapiro were the first to consider a monomial ideal M_G , called the G -parking function ideal, in the polynomial ring $R = K [x_1 , \ldots , x_n]$ over a field K and explained its connection to the chip-firing game on graphs. The standard monomials of the Artinian quotient $\frac{R}{M_G}$ correspond bijectively to G - parking functions. Dochtermann introduced and studied skeleton ideals of the graph G , which are subideals of the G -parking function ideal with an additional parameter k ($0 \le k \le n - 1$) . A k - skeleton ideal $M_G^{(k)}$ of the graph G is generated by monomials corresponding to non-empty subsets of the set of non-root vertices [n] of size at most k + 1 . Dochtermann obtained many interesting homological and combinatorial properties of these skeleton ideals. In this paper, we study the k -skeleton ideals of graphs and for certain classes of graphs provide explicit formulas and combinatorial interpretation of standard monomials and the Betti numbers.
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