

电商平台中融合广告拍卖的机制优化（王长军）

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Advertising becomes one of the most popular ways of monetizing an online transaction platform. Usually, sponsored advertisements are posted on the most attractive positions to enhance the number of clicks. However, multiple e-commerce platforms are aware that this action may hurt the search experience of users, even though it can bring more incomes. To balance the advertising revenue and the user experience loss caused by advertisements, most e-commerce platforms choose fixing some areas for advertisements and adopting some restrictions on the number of ads, such as a fixed number K of ads or one advertisement for every N organic searched results. Different from these common rules of treating the allocation of ads separately (from the arrangements of the organic searched items), in this work we build up an integrated system with mixed arrangements of advertisements and organic items. We focus on the design of truthful mechanisms to properly list the advertisements and organic items and optimally trade off the instant revenue and the user experience. Furthermore, for different settings and practical requirements, we extend our optimal truthful allocation mechanisms to cater for these realistic conditions. Finally, we exert several experiments to verify the improvement of our mechanism compared to the common-used advertising mechanism.

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