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ISE 599 Paper review

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### **Pitch Spelling Algorithms by David Meredith**

This paper introduced a pitch spelling algorithm named “ps 13 algorithm”. More importantly, the author gave brief descriptions for the 3 previous pitch spelling algorithms and he tested the four algorithms based on one same set of scores. Hence, his experimental results should be somewhat fair, I think.

I don't care much about which algorithm is the best. Two questions interested me most. One is whether it is necessary to know the key before pitch spelling. Krumhansl claimed that “once a key (or key region) has been determined, the correct spellings of the tones will be able to be determined in most cases”.

The ps13 algorithm used key-finding algorithm in some extent but Cambourpoulos's method didn't. I wonder whether it was the key factor that brings the difference between the experimental results of those two algorithms. In another word, whether the effect of key-finding to pitch spelling is clear or not.

The second question is whether more amount of computation means higher accuracy. I can see that both ps13 algorithm and Cambourpoulos's algorithm need a lot of computations. Since pitch spelling is a method that related with context, it is surely necessary to search in a relatively big range to determine the correct pitch name. However, I think that does not mean that more efforts on searching can bring more accuracy. It could be proved from the choice of  $K_{pre}$  and  $K_{post}$  in ps13 algorithm.

The last thing is the description of ps13 algorithm is a little bit abstract. One concrete example is needed here.