Title of the talk: Filter SQP Method with NCP Function

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Abstract: A mechanism for proving global convergence in filter SQP method with the NCP function is described for constraints nonlinear optimization problems. We present some new NCP functions which are piecewise linear-rational, regular pseudo-smooth and have nice properties. Then we put these NCP functions into the filter and get some new filter SQP methods. Such methods are characterized by their use of the dominance concept of multi-objective optimization, instead of a penalty parameter whose adjustment can be problematic. We constructed some algorithms for above methods and prove that these algorithms have global convergence and superlinear convergence rates under some mild conditions.