

Title

“A fast and automated approach for monitoring groove deterioration at airport pavements”

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Executive Summary

Pavement texture and frictional properties highly affect runway conditions hence plane safety. Regardless of pavement structure, materials or geometric design, surface deterioration with time is inevitable. Time dependent deterioration thus necessitates continuous measurements of friction. Considering the contribution of pavement surface texture including grooves and macrotexture to wet pavement safety, an automated and rapid technique for surveying grooved airport pavement surface is proposed. Vehicle mounted laser devices will be used for continuous profile measurements. High speed profiling method enables measurement of grooved pavement profile to evaluate condition of surface texture. As an outcome of measurements, groove depth and width will be measured in addition to macrotexture index properties such as mean profile depth (MPD). Therefore, airport operator can periodically monitor pavement surface conditions with relatively easy and less time consuming measurements. Preliminary measurements with this technique on representative textured surfaces are promising.