way the design point vector deviates relatively to the midpoint.

The detailed explanation and the full set of results can be found in Faustino (2013).

6 CONCLUDING REMARKS

The effects of the distance from the support installation have been investigated regarding reliability analysis for two main issues, each one resulting in different limit state function.

The results show that different consequences result from the range of distances of the support installation and that the choice of which results in a lower probability of failure isn't simple when analyzed simply a function at a time.

In this example, it is clear that a better understanding of the global effects can be obtained if both attained surfaces are analyzed together as each one evolves in a different way with the increasing of the distance.

For small distances, the support shapes the global surface as the ground pressure on the support remains high (and equal to its capacity). With the increase of this distance the importance of the displacements becomes higher, eventually shaping the global probability of failure's surface.

If both the support and the displacements of the ground are addressed together it is also clear that a small gap between the tunnel face and the support position considerably reduces the risks of failure (collapse).

The numerical analysis proved to be a viable alternative, for this case, when used together with the *Response Surface Methodology (*RSM*)* approach.

Given the relatively simplicity of this analysis and the importance of the information that can be obtained, we believe that the answer to "RELIABILITY ANALYSIS OF TUNNEL CONVERGENCE: IS IT WORTH THE EFFORT?" is undoubtedly yes.

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