DISCUSSION

The strength and dilatancy of sands

M. D. BOLTON (1986). *Géotechnique* 36, No. 1, 65–78

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The Author's reply to Tatsuoka's discussion contribution (Bolton, 1987) misinterprets the paper written by Wong & Arthur (1985). This paper showed that large changes in strain-induced anisotropy did not affect the drained strength anisotropy due to deposition (the inherent anisotropy). Indeed this is the sole justification for retaining the term inherent anisotropy. However, induced anisotropy is shown to have large effects on stiffness and volume changes during drained loading so that considerable initial compression can occur even in a dense

sand. This will reduce the undrained strength through porewater pressure generation. When shearing looser sand in undrained conditions it will not always be possible to attain the obliquity of ϕ_{cv} .

REFERENCES

- Bolton, M. D. (1987). Discussion on The strength and dilatancy of sands. *Géotechnique* 37, No. 2, 219–226.
Wong, R. K. S. & Arthur, J. R. F. (1985). Induced and inherent anisotropy in sand. *Géotechnique* 35, No. 4, 471–481.