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Stability of flows in periodicaly varying smooth channels.[1] ALAIN BERGEON, DAVID LO JACONO, FRANCK PLOURABOUE, IMFT – UPS — Previous studies investigated 2D and 3D flows in between two patterned surfaces focusing on either sinuous or grooved patterns. We wish to consider the possibility of non stationary disturbances in 3D textured surface. This type of geometrically forced instability are of fundamental importance in the design of efficient passive micromixers and heat exchangers. Here, we use a numerical continuation technique to investigate the three dimensional stability of flows driven by a constant pressure gradient in between two periodic patterned surfaces.

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Franck Plouraboue
IMFT – UPS

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