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- (71) **Applicant: ISRAEL AEROSPACE INDUSTRIES LTD.**
[IL/IL]; Ben-Gurion International Airport, 7010000 Lod (IL).
- (72) **Inventor: GRUVER, José Luis;** Hazohar 7/2, 6082156 Shoham (IL).
- (74) **Agent: TOPPER, Jonathan;** REINHOLD COHN GROUP, 26A Habarzel St., 6971037 Tel Aviv (IL).
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(54) **Title:** METHOD FOR COMPUTING AND REDUCING FREQUENCY "LOCK-IN" FOR A VIBRATING BEAM ACCELEROMETER AND OPTIONAL LINEAR ENHANCEMENT

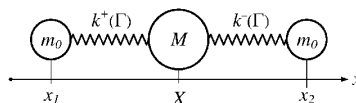


Fig. 2

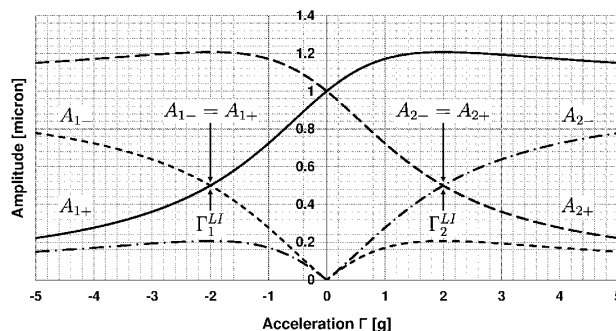


Fig. 3

(57) **Abstract:** A method for determining a "lock-in zone" for a vibrating beam accelerometer having two beams operating in a differential push-pull mode, includes obtaining for each beam a respective pair of amplitude-acceleration characteristics by subjecting the accelerometer to a range of accelerations and measuring corresponding amplitudes whereby for each beam there are corresponding first and second frequencies (f^- , f^+) at which the respective amplitude is dominant at different accelerations throughout the range. Respective crossover points for each beam are determined where the respective amplitudes (A^- , A^+) at both the first and second frequencies (f^- , f^+) for the respective beam are the same and define opposing boundaries of the lock-in zone within which the respective dominant amplitudes of the first and second frequencies cross over such that the frequency for which amplitude is higher outside the crossover

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region has a smaller amplitude within the crossover region and vice versa.