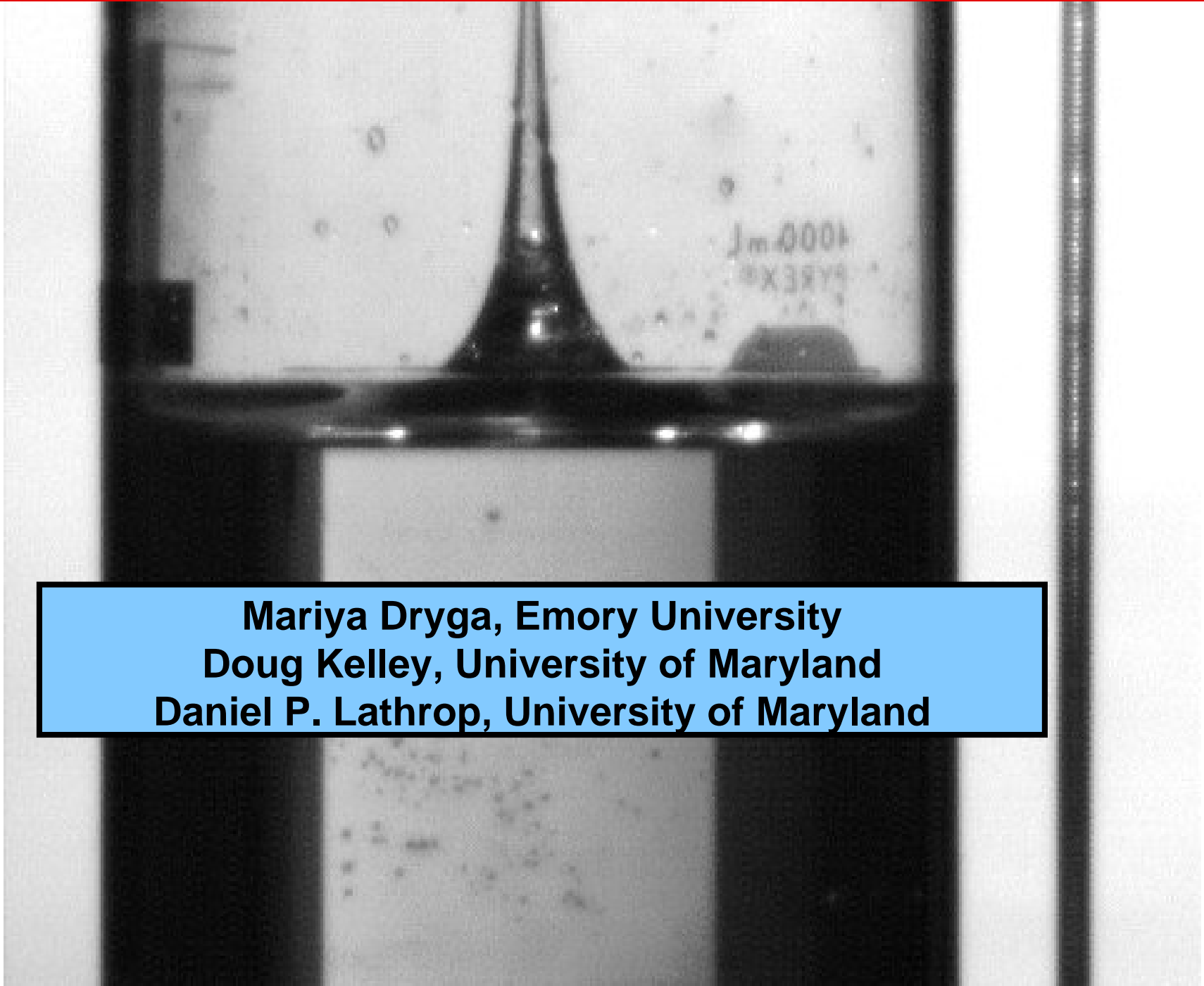




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# Driven Surface Waves in Three Environments

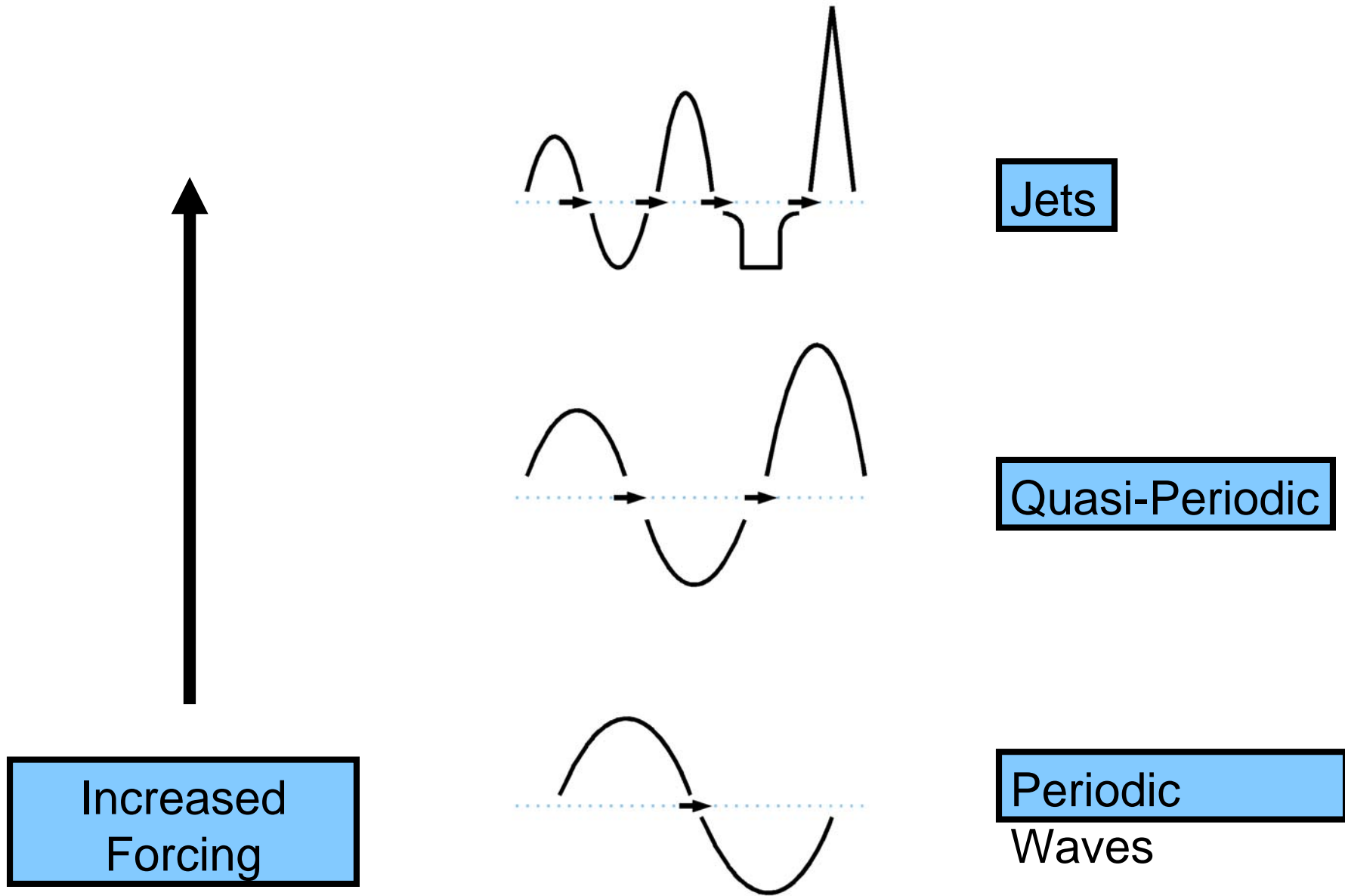


**Mariya Dryga, Emory University**  
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**Daniel P. Lathrop, University of Maryland**



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# At Constant Velocity



Based on: B.W. Zeff, B. Kleber, J. Fineberg, and D.P. Lathrop, Nature. 403, L401 - L404 (2000).



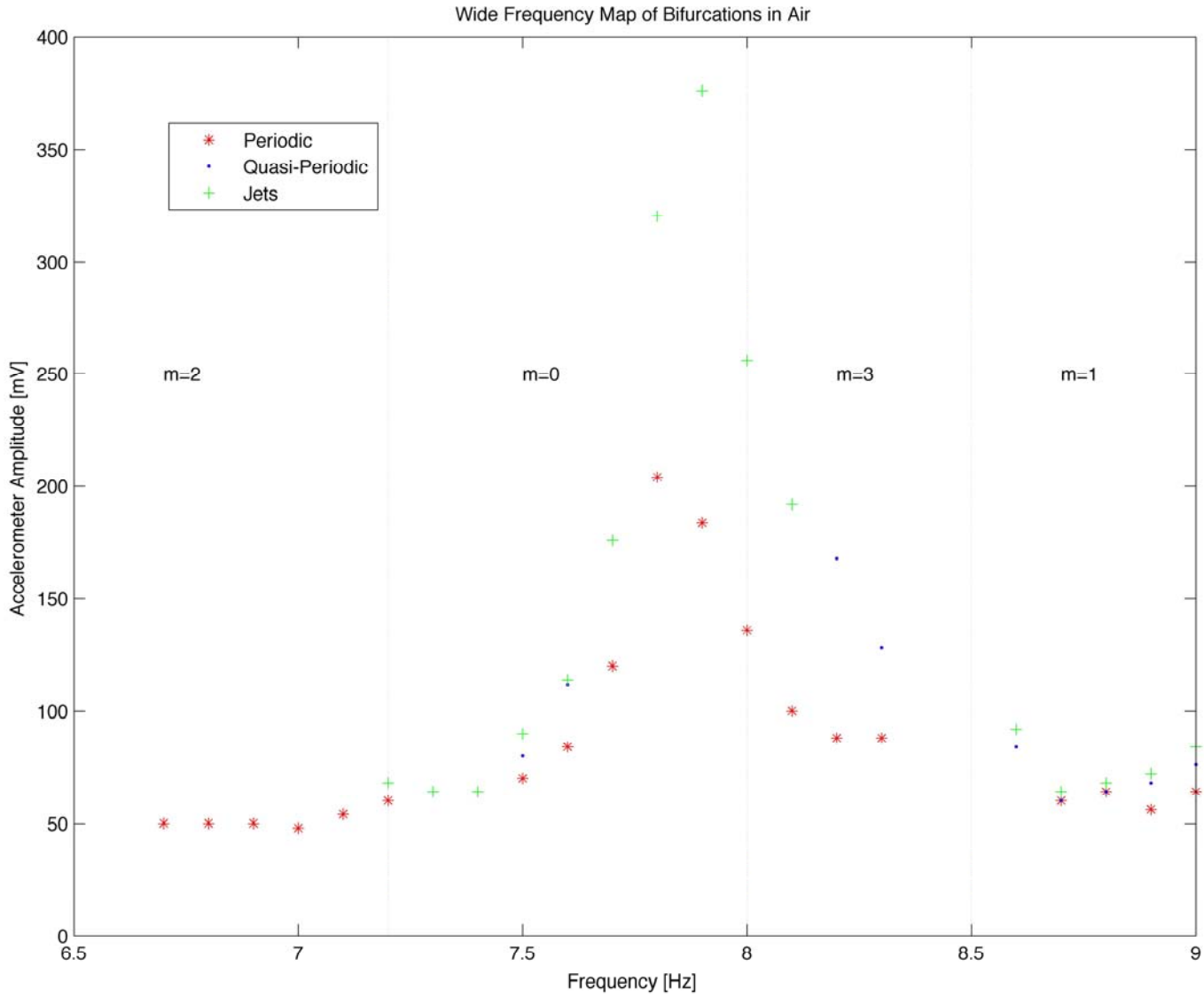
# M = 0 Jet State

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# Bifurcations In Air: Finding Resonant Frequency





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# Conclusions

→ For given frequencies, bifurcations observed in air and vacuum, but

**not in oil!**

→ Lack of waves in oil suggest

- Different resonant frequency at  $m=0$  mode
- Higher amplitude thresholds

→ Amplitude thresholds more distinct in vacuum than in air

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