CLAIMS:

1. An acceleration system comprising:

an actuator configured to displace a mass in a reciprocating motion at a resonant frequency, wherein the actuator is configured to apply a force to the mass;

a mount configured to hold a device;

at least one flexure element connecting the mount to said mass; and

a phase shift module that controls the actuator such that, during excitation of the system, the force is applied only in a direction that is substantially the same as a direction of a velocity of the mass.

2. The acceleration system of claim 1, wherein the actuator comprises a voice coil motor.

3. The acceleration system of claim 2, wherein the voice coil motor includes a permanent magnet and an armature, and wherein said armature comprises part of said mass.

4. The acceleration system of claim 2, wherein the voice coil motor includes a permanent magnet and an armature, and wherein the permanent magnet is part of the mass.

5. The acceleration system of claim 1, wherein the mount includes a test socket to which the device is electrically connected.

6. The acceleration system of claim 5, wherein the device is an accelerometer device.

7. The acceleration system of claim 1, further comprising at least one additional flexure element connecting the mass to a fixed surface.

8. The acceleration system of claim 1, wherein the at least one flexure element comprises a pair of flexure elements.

9. The acceleration system of claim 1, further comprising a handler configured to connect and disconnect the device to and from the mount.

10. The acceleration system of claim 9, further comprising a chamber surrounding the mount, wherein the conditions within the chamber are controlled, the conditions including at least one of temperature and humidity.

11. A method of accelerating a device comprising:

providing an acceleration system comprising a mount, a mass, at least one flexure element, and an actuator;

placing the device on the mount, said mount being coupled to said mass via the at least one flexure element; and

applying a force to the mass with the actuator to displace the mass in a reciprocating motion at a desired resonant frequency,

wherein during excitation of the system, the force is applied only in a direction that is substantially the same as a direction of a velocity of the mass.

12. The method of claim 11, wherein the actuator comprises a voice coil motor.

13. The method of claim 12 wherein the voice coil motor includes a permanent magnet and an armature and wherein said armature comprises part of said mass.

14. The method of claim 12, wherein the voice coil motor includes a permanent magnet and an armature, and wherein the permanent magnet is part of the mass.

15. The method of claim 11, wherein the mount includes a test socket, and placing the device includes electrically connecting the device to the test socket.

16. The method of claim 15, wherein the device is an accelerometer device.

17. The method of claim 11, wherein said mass is further coupled to a fixed surface via at least one additional flexure element.

18. The method of claim 11, wherein said at least one flexure element comprises a pair of flexure elements.

19. The method of claim 11, wherein said placing includes inserting the device into a test socket affixed to the mount with a handler device.

20. The method of claim 11, wherein said placing includes placing the device within a chamber surrounding the mount, and further comprising controlling the environmental conditions within the chamber, the conditions including at least one of temperature and humidity.

21. The acceleration device of claim 1, wherein the actuator is configured to apply a sinusoidal force to said mass.

22. The method of claim 11, wherein said force applied to the mass is a sinusoidal force.

23. The acceleration system of claim 1, wherein the acceleration system has at least two resonant frequencies.

24. The method of claim 11, wherein the acceleration system has at least two resonant frequencies.

25. The acceleration system of claim 1, wherein the phase shift module controls the actuator such that, during braking of the system, the force is applied only in a direction that is substantially opposite to a direction of the velocity of the mass.

26. The method of claim 11, wherein, during braking of the system, the force is applied only in a direction that is substantially opposite to a direction of the velocity of the mass.

WHAT IS CLAIMED IS:

1. An acceleration device comprising:

an actuator configured to displace a mass in a reciprocating motion at a frequency within a desired range;

a mount configured to hold a device; and

at least one spring connecting the mount to said mass,

wherein the desired frequency is a resonant frequency.

2. The acceleration device of claim 1, wherein the actuator comprises a voice coil motor.

3. The acceleration device of claim 2, wherein the voice coil motor includes a permanent magnet and an armature and wherein said armature comprises part of said mass.

4. The acceleration device of claim 2, wherein the voice coil motor includes a permanent magnet and an armature, and wherein the permanent magnet is part of the mass.

5. The acceleration device of claim 1, wherein the mount includes a test socket to which the device is electrically connected.

6. The acceleration device of claim 5, wherein the device is an accelerometer device.

7. The acceleration device of claim 1, wherein said mass is further coupled to a fixed surface by a second spring.

8. The acceleration device of claim 1, wherein said spring comprises a pair of flexure elements.

9. The acceleration device of claim 1, further comprising a handler to connect and disconnect the device to and from the mount.

10. The acceleration device of claim 9, further comprising a chamber surrounding the mount, wherein the conditions within the chamber are controlled, the conditions including at least one of temperature and humidity.

11. A method of accelerating a device comprising:

placing a device on a mount, said mount being coupled to a mass via at least one spring; and

applying a periodic force to the mass with an actuator to displace the mass in a reciprocating motion at a desired frequency.

12. The method of claim 11, wherein the actuator comprises a voice coil motor.

13. The method of claim 12 wherein the voice coil motor includes a permanent magnet and an armature and wherein said armature comprises part of said mass.

14. The method of claim 12, wherein the voice coil motor includes a permanent magnet and an armature, and wherein the permanent magnet is part of the mass.

15. The method of claim 11, wherein the mount includes a test socket, and placing the device includes electrically connecting the device to the test socket.

16. The method of claim 15, wherein the device is an accelerometer device.

17. The method of claim 11, wherein said mass is further coupled to a fixed surface by a second spring.

18. The method of claim 11, wherein said at least one spring comprises a pair of flexure elements.

19. The method of claim 11, wherein said placing includes inserting the device into a test socket affixed to the mount with a handler device.

20. The method of claim 11, wherein said placing includes placing the device within a chamber surrounding the mount, and further comprising controlling the environmental conditions within the chamber, the conditions including at least one of temperature and humidity.

21. The acceleration device of claim 1, wherein the spring is a flexure.

22. The acceleration device of claim 1, wherein the actuator is configured to apply a sinusoidal force to said mass.

23. The acceleration device of claim 1, wherein the actuator is configured to apply a force to said mass, wherein the applied force is aligned with a resulting velocity of the mass.

24. The method of claim 11, wherein the spring is a flexure.

25. The method of claim 11, wherein said force applied to the mass is a sinusoidal force.

26. The method of claim 11, wherein the applied force is aligned with a resulting velocity of the mass.