CLAIMS

1. A system comprising:

at least two coherent light sources configured to illuminate a target with at least two corresponding spots,

an optical unit comprising a mask and configured to focus, onto a sensor, interfered scattered illumination from the spots of the target, passing through the mask, to yield a signal,

wherein the mask is configured to amplify an amplitude of interfered scattered illumination intensity fluctuations on the sensor,

at least one shifter configured to shift a frequency of at least one of the coherent light sources to provide a carrier frequency in the signal, and

a processing unit configured to derive a vibration frequency of the target from the sensor signal with respect to the carrier frequency.

2. The system of claim 1, wherein the at least two coherent light sources have known phase relations between them.
3. The system of claim 1, wherein the at least one shifter is configured to shift a phase of the at least one of the coherent light sources.
4. The system of claim 1, wherein the at least two coherent light sources are split from a single illumination source.
5. The system of claim 1, wherein the optical unit is configured to generate the signal with respect to different polarizations of the interfered scattered illumination.
6. The system of claim 1, wherein the mask is configured with respect to an expected interference pattern of the scattered illumination.
7. A method comprising:

illuminating a target by at least two coherent light sources to form at least two corresponding spots,

focusing, onto a sensor and through a mask, interfered scattered illumination from the spots on the target, to yield a signal, wherein the mask is configured to amplify an amplitude of interfered scattered illumination intensity fluctuations on the sensor,

shifting a frequency of at least one of the coherent light sources to provide a carrier frequency in the signal, and

deriving a vibration frequency of the target from the sensor signal with respect to the carrier frequency.

8. The method of claim 7, wherein the at least two coherent light sources have known phase relations between them.
9. The method of claim 7, wherein the shifting comprises shifting a phase of the at least one of the coherent light sources.
10. The method of claim 7, further comprising splitting the at least two coherent light sources from a single illumination source.
11. The method of claim 7, further comprising generating the signal with respect to different polarizations of the interfered scattered illumination.
12. The method of claim 7, further comprising configuring the mask with respect to an expected interference pattern of the scattered illumination.
13. The method of claim 7, further comprising optimizing sizes and spacing of the spots with respect to mask parameters.