What is claimed is:

1. A Coriolis flowmeter (5), comprising:

flow conduits (103A, 103B);

a driver (104) and pick-off sensors (105, 105′) connected to the flow conduits (103A and 103B);

a meter electronics (20) configured to drive the driver (104) to oscillate the flow conduits (103A, 103B) in a first bending mode, and to receive signals from the pick-off sensors (105, 105′);

wherein the meter electronics (20) is configured to indicate a presence of an external magnetic field if a magnetic field is detected; and

wherein the presence of an external magnetic field is indicated when at least one of a step change in voltage and a spike in voltage is detected in the signal provided by at least one of the pick-off sensors (105, 105').

2. The Coriolis flowmeter (5) of claim 1, wherein the presence of an external magnetic field is indicated when a spike in voltage is detected in the signal provided by the driver (104).

3. The Coriolis flowmeter (5) of claim 1, wherein the presence of an external magnetic field is indicated when a step change in a time delay (ΔT) between the pick-off sensors is detected.

4. The Coriolis flowmeter (5) of claim 1, wherein a phase of each pick-off sensor (105, 105') is measured relative to a third independent signal.

5. The Coriolis flowmeter (5) of claim 4, the third independent signal comprises a drive signal representing a drive mode other than the first bending mode.

6. The Coriolis flowmeter (5) of claim 5, wherein the presence of an external magnetic field is indicated when a zero-flow open loop driver signal i_{drive2} phase that is compared to a zero-flow phase of both pickoff voltages V_{LPO2}, and V_{RPO2}, is shifted asymmetrically away from a flowing i_{drive2} phase that is compared to a flowing phase

of both pickoff voltages V_{LPO2}, and V_{RPO2}, wherein V_{LPO2}, and V_{RPO2} are pickoff voltages at a second bend mode frequency.

7. The Coriolis flowmeter (5) of claim 1, wherein a tamper correction factor is calculated and applied to the measured flowrate to offset the effect of an external magnetic field when the presence of an external magnetic field is detected.

8. The Coriolis flowmeter (5) of claim 1, wherein an alarm is triggered when the presence of an external magnetic field is detected.

9. A method for operating a Coriolis flowmeter comprising:

flowing a flow material through flow conduits of the flowmeter;

driving a driver connected to the flow conduits to oscillate the flow conduits in a first bending mode;

receiving signals from pick-off sensors connected to the flow conduits;

indicating a presence of an external magnetic field if a magnetic field is detected wherein the presence of an external magnetic field is indicated when at least one of a step change in voltage and a spike in voltage is detected in the signal provided by at least one of the pick-off sensors.

10. The method for operating a Coriolis flowmeter of claim 9, wherein the presence of an external magnetic field is indicated when a step change in a time delay (ΔT) between the pick-off sensors is detected.

11. The method for operating a Coriolis flowmeter of claim 9, wherein a phase of each pick-off sensor is measured relative to a third independent signal comprising a drive signal representing a drive mode other than the first bending mode.

12. The method for operating a Coriolis flowmeter of claim 11, wherein the presence of an external magnetic field is indicated when a zero-flow open loop driver signal i_{drive2} phase that is compared to a zero-flow phase of both pickoff voltages V_{LPO2}, and V_{RPO2}, is shifted asymmetrically away from a flowing i_{drive2} phase that is compared to

a flowing phase of both pickoff voltages V_{LPO2}, and V_{RPO2}, wherein V_{LPO2}, and V_{RPO2} are pickoff voltages at a second bend mode frequency.

13. The method for operating a Coriolis flowmeter of claim 9, wherein a tamper correction factor is calculated and applied to the measured flowrate to offset the effect of an external magnetic field when the presence of an external magnetic field is detected.

14. The method for operating a Coriolis flowmeter of claim 9, wherein an alarm is triggered when the presence of an external magnetic field is detected.