**Introduction**

- Moiré technique has attracted great attention and applied to deformation measurement of various materials.
- Sampling Moiré method can measurement displacement distribution up to 1/1000 of a grating pitch.
- This method is applicable at an atomic level as well as to electronic devices, and infrastructures such as bridge.

**Principle of displacement and strain measurement by sampling Moiré**

- Sampling Moiré method can measure the full-field displacement and strain of ultra-small and large-scale structures.
- Compared with conventional methods, the advantages of our method are fast, highly accurate, strong anti-noise ability.
- Both strain measurement of TEM/SEM image at nano/micro scale or deflection measurement of bridges can be applied.

**Practical Applications from Nano-scale to Mega-scale**

- **Nano-scale**: STEM image, CFRP
- **Meter-scale**: New concrete bridge
- **Micro-scale**: Ti-64V alloy
- **Millimeter-scale**: Bridge

**Summary**

- Sampling Moiré method can measure the full-field displacement and strain of ultra-small and large-scale structures.
- Compared with conventional methods, the advantages of our method are fast, highly accurate, strong anti-noise ability.
- Both strain measurement of TEM/SEM image at nano/micro scale or deflection measurement of bridges can be applied.