

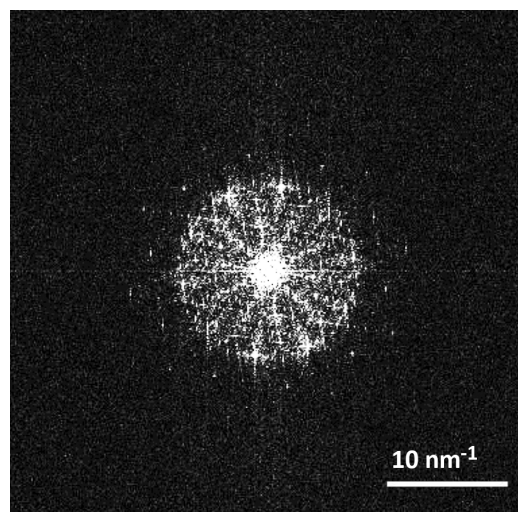
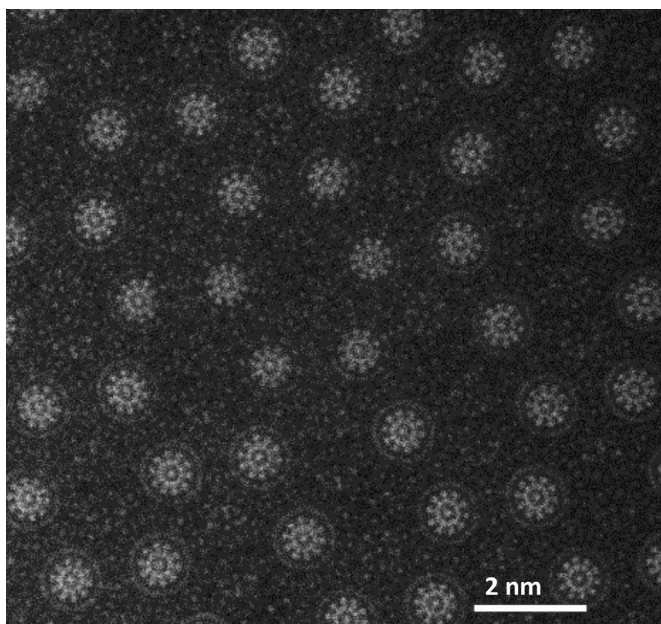
# F2: Multi-purpose Electron Microscope

The F2 is a new concept of 20-200kV TEM. This new generation of multi-purpose electron microscope is designed specifically to meet today's diversified needs.

Thanks to the high brightness and small probe size, the F2 is able to reach an unprecedented guaranteed resolution for STEM (0.14nm), EDS (1.7sr) and EELS (0.3eV) at the same time, creating a new class of high-end non-corrected TEM.

Over the last decades, STEM has emerged as a powerful tool for studying nanomaterials. Many techniques have been developed, Bright Field, Dark Field, High Angle Annular Dark Field, and Annular Bright Field, to characterize materials. By using a STEM detector with a large inner radius, diffraction contrast can be avoided, leading to HAADF image intensity being linked to Z-contrast (atomic number). This allows for even complicated crystal systems, such as Quasicrystals, to be visualized. Coupled with the F2's new DeSCAN system, wide area HAADF images can be analyzed with high energy resolution EELS.

High-resolution analytical systems, such as transmission electron microscope (TEM) and scanning transmission electron microscope (STEM), are attracting increasing attention. Higher resolution and higher efficiency are required for modern systems, along with upgraded and intuitive ease of operation.



STEM-HAADF image  
Specimen: Quasicrystal  
Courtesy of Professor Emeritus K. Hiraga - Tohoku University