

Electron Probe Microanalyzer

EPMA-8050G

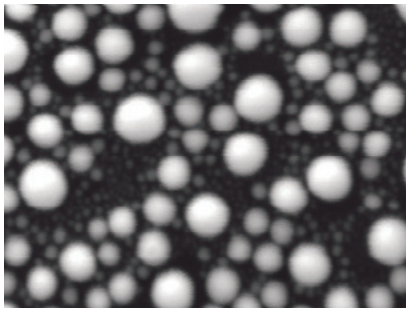


Debut of the Grand EPMA

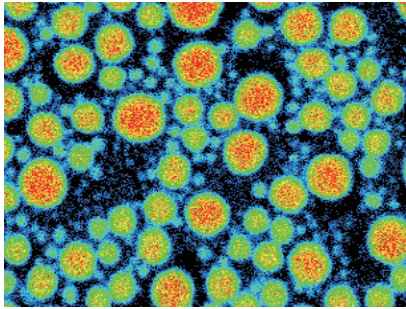
**With a Cutting-Edge FE Electron Optical System,
the Ultimate in Advanced Shimadzu EPMA Analysis Performance**

- ▮ The high brightness schottky emitter deployment
- ▮ Realize a high irradiation electric current and high-resolution coexistence
- ▮ Maintain X-rays takeoff an angle of 52.5 degrees
- ▮ It can carry a high sensitive (4 inches) spectroscope to up to 5ch
- ▮ Incorporate a high illumination optical system





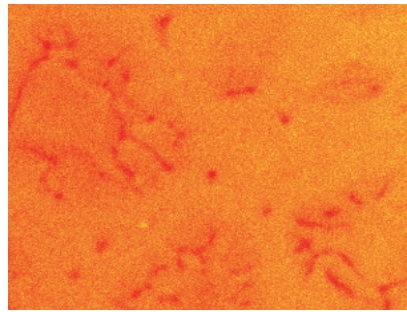
SE 500nm



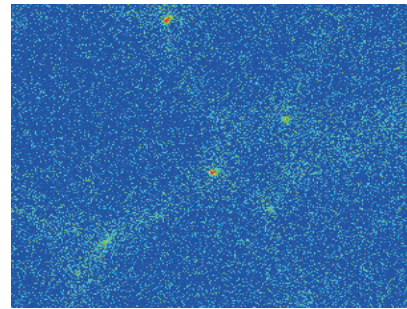
Sn 500nm

Ultra High Resolution Mapping

A mapping analysis of Sn balls on carbon was performed at a magnification of 30,000 \times . Even Sn particles a mere 50 nm in diameter, visible in the SE image (Upper fig.), can be confirmed precisely in the X-ray image (Lower fig.).



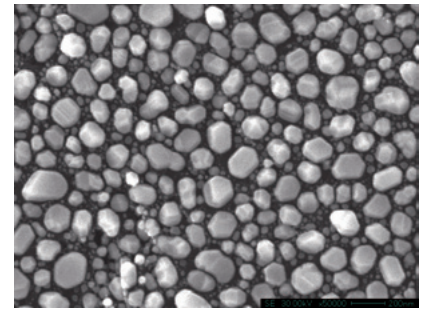
Cr 5 μm



Mn 5 μm

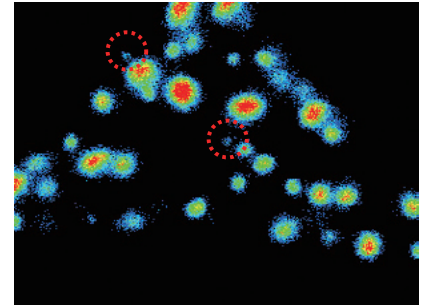
Ultra High Sensitivity Mapping

A mapping analysis of stainless steel was performed with a beam current of 1 μ A at a magnification of 5,000 \times . (Upper fig.) The distribution of phases with slightly different Cr concentrations is precisely captured. (Lower fig.) The system succeeds in visualizing a distribution of Mn content under 0.1 %.



Highest Secondary-Electron Image Resolution of 3 nm

This is a sample observation of gold particle deposition on carbon. A maximum resolution of 3 nm (at 30 kV) is achieved. The beam is focused even at a comparatively large beam current, so a smooth, high-resolution SEM image is easily obtained.



Ag 1 μm

Applications : Distribution of Ag in Lead-Free Sold

This data is from a mapping analysis of areas in lead-free solder containing a large amount of Ag. (Accelerating voltage: 10 kV; beam current: 20 nA) It is evident that the particles with a diameter of about 0.1 μ m, indicated by the red dashed lines, are also Ag particles.



Shimadzu Corporation

www.shimadzu.com/an/

Company names, product/service names and logos used in this publication are trademarks and trade names of Shimadzu Corporation or its affiliates, whether or not they are used with trademark symbol "TM" or "®". Third-party trademarks and trade names may be used in this publication to refer to either the entities or their products/services. Shimadzu disclaims any proprietary interest in trademarks and trade names other than its own.

For Research Use Only. Not for use in diagnostic procedures.

The contents of this publication are provided to you "as is" without warranty of any kind, and are subject to change without notice. Shimadzu does not assume any responsibility or liability for any damage, whether direct or indirect, relating to the use of this publication.