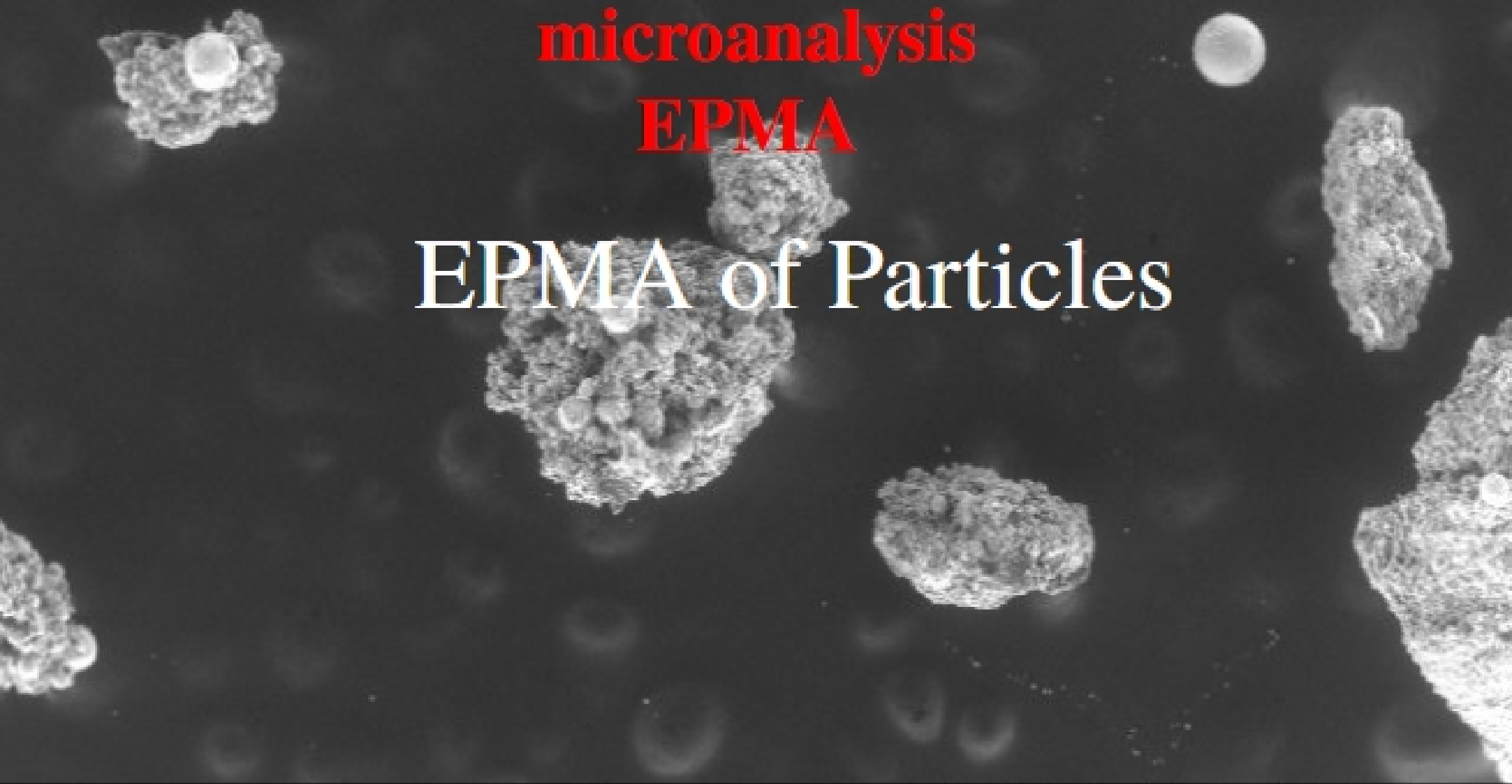




**Electron probe
microanalysis
EPMA**

EPMA of Particles



15.0kV x37 ESED 80Pa





What's the point?

EPMA is traditionally done for bulk material.

What are the issues for particles?

How precise/accurate are such analyses?



Bulk vs particle

Normal EPMA assumes that the electron beam is exciting a homogeneous volume, i.e. there is no difference either laterally or vertically. Thus, the matrix correction is being applied in a uniform matter, and there is one applicable $\phi(\rho z)$ profile for each element.

However, particles create many difficulties, including:

- Their size (small)
- Their venue (location, surroundings)
- Their surface (not flat nor smooth)

