

SYMPOSIUM ON ELECTRON METALLOGRAPHY

INTRODUCTION

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Sponsorship of an open technical session on electron metallography is now an established annual practice of Subcommittee XI on Electron Microstructure of Metals of ASTM Committee E-4 on Metallography. These sessions are an important activity of Subcommittee XI in that they provide an excellent forum for presentation of papers on general topics pertaining to techniques and applications of various electron beam instruments (for example, the microscope, diffraction camera, and microprobe) which provide information on metal surface structure and composition. From such sessions often come the sparks which ignite new committee activities to develop or standardize techniques promising important and broad metallurgical usage.

Again, as in 1958, ASTM has decided to publish together in a symposium volume the papers presented at the June

1959 Open Technical Session of Subcommittee XI. By doing so, tacit recognition is given to the importance and widespread interest in the technical subjects discussed.

This volume includes papers on the electron metallography of cast nickel, of steels (including the structural effects of neutron irradiation), of tin oxides and tin plate alloy layers, of dislocations, and of high-temperature alloys. Other papers discuss electron diffraction techniques and electron microprobe measurements.

The subject of phase morphology in high-temperature alloys has again been given special attention.² The papers on this topic include the Sixth Progress Report by Subcommittee XI of E-4 entitled, "Electron Microstructure of Precipitation-Hardenable Austenitic and Nickel-Base Alloys."

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² See also Symposium on Advances in Electron Metallography, Am. Soc. Testing Mats. (1958). (Issued as separate publication *ASTM STP No. 245*.)