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摘要：低真空二次电子图像是在有空气存在的条件下对于没有事先处理过的样品拍摄得到的，小低真空气压一般能达到150MPa左右。当有气体存在时，样品发射出来的电子相互碰撞产生的离子和漂向样品表面的气体分子共同作用抑制电荷形成，因而可以更好地得到一些不能喷涂、不导电的一些样品的表面信息。本文从电子束能量、不同气压条件、电荷诱导等方面来研究低真空二次电子图像的分辨率。

关键词：气体离子, 分辨率, 电荷, 低真空SEM

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Resolution study of secondary electron image in low-vacuum SEM

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Abstract: Secondary electron image in low vacuum acquired from uncoated specimen on the condition of a small amount of air, the pressure of low vacuum commonly amount to around 150MPa. Inhibition and formation of charge by combined action ion caused by collided gas from specimen and gas molecule toward to specimen surface if only there existed gas. Therefore some special surface information are obtained from uncoated or non-conductive specimen much better. The thesis analysis secondary electron resolution from beam energy, different gas pressure, charge-induced and so on in low-vacuum condition.

Key words: Low-vacuum SEM, Gas ion, Gain/black contrast, Charge

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