عنوان فارسی مقاله:
مدلسازی دهانه شعاعی تشکیل شده توسط انحلال مواد در حفاری همزمان با استفاده از آب یون زدوده microECM و microEDM

عنوان انگلیسی مقاله:
Modeling of radial gap formed by material dissolution in simultaneous microEDM and microECM drilling using deionized water
2. Theoretical analysis

2.1. Radial gap model

In conventional micro-EDM drilling, material is removed by the discharge through melting and vaporization. Therefore, the machining gap formed is constituted of the critical distance and the discharge depth [17]. However, in SEDCM drilling, a thin layer of affected material on the lateral surface generated by the sparks is further removed to enhance the surface integrity of micro-hole, as illustrated in Fig. 1. As a result, aside from the critical distance and the discharge to perform the modeling of radial gap of obtained micro-holes. For that reason, the side gap formed after micro-EDM is considered as the initial gap for material dissolution. In addition, the roughness of surface generated by micro-EDM could be neglected when modeling the gap distance.