

# 使用特徵匹配與共同資訊之乳房X光影像註記

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## 摘要

Mammogram registration, a critical step in automated detection of breast cancer, is an ongoing research topic. Breast is an elastic body, so it is erroneous to assume that breast is a rigid body. Unfortunately, it is difficult to prevent breast from being deformed during acquisition of the mammogram. For that reason, in the research we use mutual information (MI), features extraction, feature matching, and thin-plate splines (TPS) theories to develop a novel mammogram registration method. TPS spatial transformation is applied to simulate the deformation of an elastic body. As a supplementary tool, the developed method is helpful for doctors to conduct the temporal comparative analysis of mammograms for detecting breast cancer.

**關鍵字：**Mutual Information, Mammogram Registration, Thin-Plate Splines, Feature Matching