

Table 1. NFP, NFN and T values for GMM and SMM models

Model/ images		Img1	Img2	Img3
GMM	NFN	0.0086	0.0269	0.0000
	NFP	2.4947	0.2173	1.3002
SMM	NFN	0.0086	0.0252	0.0058
	NFP	0.7707	0.0652	0.0250
GMM	$T(s)$	0.1180	0.1222	0.1278
SMM		2.1579	2.1086	2.0831

IV. CONCLUSION

In this paper, we have tested two finite mixture models for segmenting real industrial radiography images. The first one is based on Gaussian distribution and the other one on Student's t-distribution. The EM (Expectation Maximization) algorithm has been used to estimate the parameters of these mixtures. Experiment results have shown the efficiency of the two mixture models when the background does not present a high variability. Nevertheless, when faced to a high intensity variability of the background, the GMM method fails to extract the defects and presents an over segmentation. We have demonstrated the robustness, the accuracy and the effectiveness of SMM model when faced to a moderate intensity variability of background

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