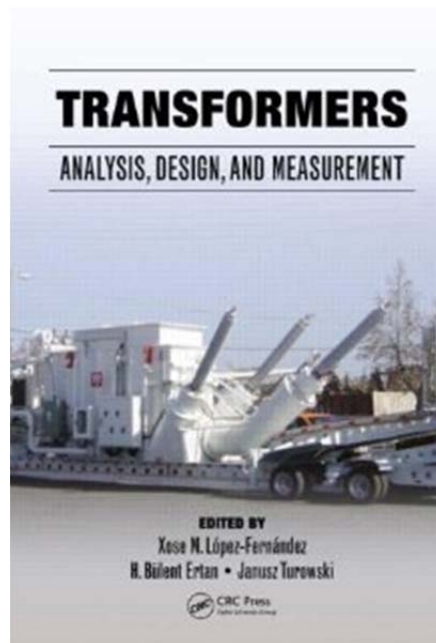


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Power Transformers' Fault Diagnostics by Park's Vector Approach

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12.1 Introduction

The electricity market was, for a long time, dominated by national or regional monopolies. During the last decades, this picture has changed drastically, particularly in Europe and in the United States. The trend toward free competition and privatization with the related demands on return on investments results in a cost consciousness among utilities. In this context, monitoring and on-site diagnostics are seen as a possible way of optimizing existing assets. The main driving forces are to reduce maintenance costs, to prevent forced outages with the related consequential costs, and to work existing equipment harder and longer [1]. Transformers constitute the largest single component of the transmission and distribution equipment market. The global market for transformers was valued at US\$14.07