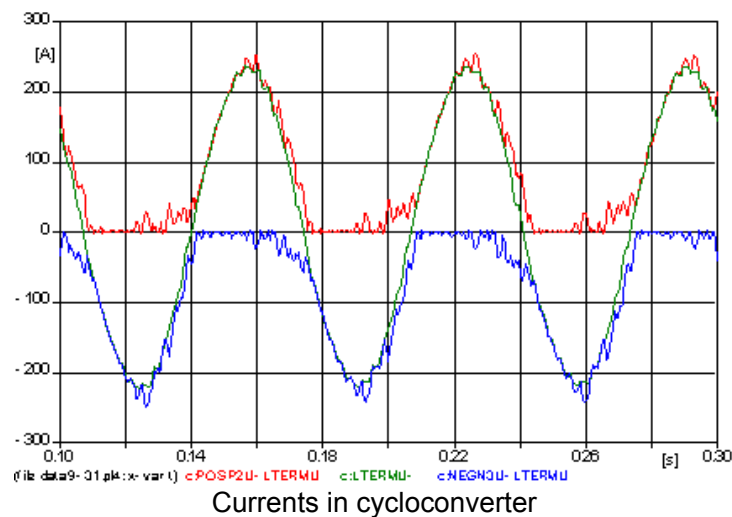


Applied ATP-EMTP to Highly-sophisticated electric power systems



Eiichi Haginomori

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Preface

For power system engineers engaged in sophisticated electric power systems, such as with very high power generations, with high capacity of EHV/UHV transmission lines, high density power flows, combined with IPP systems, etc., more and more understanding in detail the various transient and complicated phenomena in the systems are obliged. The time regions of these are from nanoseconds to several seconds, or even minutes.

As for the education of such engineers the best way is thought to be experiments and experiences in actual power systems, any of which seems to be very difficult and costly in these fields. Also long time interval of education is necessary.

Recently ATP-EMTP has made a significant development and became a more and more useful and powerful tool to analyse various transients in power systems and, also, power apparatuses. The program covers almost all of the transients and is applicable to PC, by which virtual experiment/experience seems to be realistic. Therefore, the efficient usage of the program is beneficial for cost and time saving.

In this text-book various kinds of transients together with the analyses with ATP-EMTP are written. Also the principles of the phenomena and the usages of ATP-EMTP are involved as much. Data files analysing such phenomena are attached.

Care should be taken that, beforehand, primary stage study of ATP-EMTP is strongly recommended before reading this text book.

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Note: Data files attached are explained in the relevant chapters.