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Editorial

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The use of electric fields or currents to enhance sintering dates back many decades but only in recent years has it become the focus of intense worldwide effort. The renewed interest was prompted by the availability of commercial facility designed to incorporate current effects and pressure in consolidation processes. More important, however, interest was fueled by published results providing clear evidence of the advantages of current-enhanced sintering over conventional methods, including hot-pressing. For some time, however, most of the work done using the pulse electric current sintering method has focused on achieving certain benefits with little or no attempt to understand the underlying fundamental issues. This "black box" approach has had a strong negative impact on the utilization of the method in the US and Europe. But the picture has changed recently, as many fundamental studies have shed light on the process.

It is with this new trend of focusing on the fundamentals that this symposium and earlier ones had been organized. This special section contains papers presented at the Symposium, reflecting the emphasis of the fundamental issues with this rapidly growing processing approach.

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