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[Home](#) > STAR-CCM+ and SPEED for electric machine cooling analysis

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Abstract:

This paper shows how two well established software programs can be used to determine the electrical machine performance and the temperature rise within the machine parts using a permanent magnet interior rotor synchronous machine as an example. Both software packages, STAR-CCM+ providing an engineering process code for solving problems involving fluid flow, conjugate heat transfer and solid stress and *SPEED* the specialized analysis tool for the design of electric machines such as motors, generators and alternators including the drive with inverters and their control, are developed by CD-adapco. In the latest versions of the 2 packages a link was established to exchange the data needed from *SPEED* to STAR-CCM+. The process is presented in more detail in this paper.

 [CWIEME_2012_MA_SH.pdf](#)^[1]

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