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Accelerator-enabled version of RRTMG

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The radiative-transfer physical parameterization can correspond to as much as half of the computational cost of a GCM. One of the most widely used packages for these computations is Atmosphere and Environmental Research's (AER's) Rapid Radiative-Transfer Model for GCMs (RRTMG). We have fully rewritten RRTMG for high performance on single- through many-core CPU, GPU and vector architectures. This code has effectively replaced previous integrations of RRTMG in the MPI-M ICON model, greatly reducing the computational costs related to radiative-transfer. We present the latest comparative performance benchmarks on single-node machines across Intel, NVIDIA and NEC architectures, along with an outline of the relevant code-design issues involved.