Is methane released from the forest canopy? Laboratory experiments show that rates of CH4 emission from plant material depend exponentially on temperature and linearly on UV irradiance. The UV irradiance shall be spectrally weighted and shorter wavelengths results in higher CH4 emissions. Global upscaling models for estimating aerobic CH4, based on lab results, have been conducted with varying results, but until now field measurements based on profile and eddy covariance measurements have failed to show CH4 emissions from forest canopies. To detect CH4 production or consumption in the canopy of a beech stand we connected a CH4 analyzer to a canopy air profile system that samples air below and above the canopy from seven different heights. A profile system with many vertical sample points can detect gas concentration gradients with a high sensitivity only under conditions with no or little air movements. Under these conditions we found indications of periodic CH4 emissions in the canopy, but more data need to be analyzed before the magnitude of the canopy source of CH4 can be established.