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Attosecond pulse characterization with Rydberg wavepackets STEFAN PABST, ITMAP, Harvard-Smithsonian CfA, EVA LINDROTH, MARCUS DAHLSTRM, Department of Physics, Stockholm University — For attosecond dynamics, it is crucial to know the exact properties of isolated and trains of attosecond pulses. A full pulse characterization is, therefore, of high interest. Here, we propose a new method of fully characterizing these pulses by photoionizing an electronically excited Rydberg wavepackets. The different energy levels of the Rydberg states make it possible to interfere different spectral components with each other. The dipole phases, which normally enter in the ionization step, are eliminated here so that the spectral phase can be uniquely determined. This method is very versatile and offers several advantages that will be discussed.

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