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Dissociative Electron Attachment of Water Molecules ALI BELKACEM, HIDEHITO ADANIYA, TIMUR OSIPOV, THORSTEN WEBER, SUN Y. LEE, MARCUS HERTLEIN, BENEDIKT RUDEK, Lawrence Berkeley National Laboratory, LBNL/AMOS TEAM — A Coltrims method is developed to measure the kinetic energy and angular distribution of fragment negative ions arising from dissociative electron attachment of molecules. A low energy pulsed electron gun is used in combination with pulsing the extraction plates of the Coltrims spectrometer. This technique is applied to study the negative oxygen anion channel for the three resonances, $^2B_1$, $^2A_1$, and $^2B_2$ resonances of water. The measured kinetic energy of the O- fragment gives a good measure of the two-body channel versus three-body channel for each resonance. The angular distribution of the O- fragments with respect tom the electron beam direction is found reflect well the symmetry of the resonance state. The experimental results are compared to the theoretical predictions.

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