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Lifetime of $2p^5(^2P^o_{\frac{1}{2}})4d$ State of Neon. D. C. DEMETS and J. R. BRANDENBERGER, Lawrence U.* -- Very few lifetime measurements exist for neon states lying beyond the $2p^53p$ levels. Hence we have begun a series of time-resolved lifetime determinations for the $2p^54d$ states using a pair of synchronously-pumped dye lasers. Our method involves a two-step excitation sequence that begins in the $2p^53s$ manifold and exploits the $2p^53p$ levels as intermediate states. This technique of excitation coupled with narrow band observation of the fluorescence permits us to eliminate cascade effects. Our preliminary value for the lifetime of the $2p^5(^2P^o_{\frac{1}{2}})4d$ state is 48 ± 5 nsec. We expect to determine lifetimes of several other states in the same manifold, and to reduce the present uncertainty to about 1 nsec.

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(x) Prefer Standard Session

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Note: We are very anxious for this abstract to appear in the program and the Bulletin, but it may be impossible for either author to be present to present the paper. Hence you might care to schedule it in the supplementary program.