Progress in Diamond Sensor Development for Use in LENR Experiments

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Electronic grade single crystal diamonds have recently become available, and the characteristics of these diamonds are ideal for the detection of various types of nuclear radiation. Previous work demonstrated the usefulness of diamond detectors in low energy nuclear reaction systems and exposed their fragile nature when used *in situ*. This work describes the use of different material combinations and fabrication techniques in an effort to improve the sensitivity and durability of these diamond sensors. We have successfully fabricated Palladium electrode diamond sensors using two additional material combinations. Their behavior was characterized using common I-V techniques. The spectroscopic response of the sensors was calibrated using a Pu-239 alpha source.