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Integrating Wireless Networking for Radiation Detection¹ JEREMY BOARD, ALEXANDER BARZILOV, PHILLIP WOMBLE, JON PASCHAL, Western Kentucky University — As wireless networking becomes more available, new applications are being developed for this technology. Our group has been studying the advantages of wireless networks of radiation detectors. With the prevalence of the IEEE 802.11 standard ("WiFi"), we have developed a wireless detector unit which is comprised of a 5 cm x 5 cm NaI(Tl) detector, amplifier and data acquisition electronics, and a WiFi transceiver. A server may communicate with the detector unit using a TCP/IP network connected to a WiFi access point. Special software on the server will perform radioactive isotope determination and estimate dose-rates. We are developing an enhanced version of the software which utilizes the receiver signal strength index (RSSI) to estimate source strengths and to create maps of radiation intensity.

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