SUB-NETWORK COVERAGE METHOD AS AN EFFICIENT METHOD OF WIRELESS SENSOR NETWORKS FOR FOREST FIRE DETECTION

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ABSTRACT:

WIRELESS SENSOR NETWORKS ARE DEPENDENT ON SIGNAL SENDING AND RECEIVING; THE SYSTEM WILL NOT BE ABLE TO FUNCTION IF COMMUNICATION BETWEEN SENSORS ARE NOT ESTABLISHED. IN THIS STUDY, THE USE OF SUB-NETWORKS IN RANDOMLY DISTRIBUTED NODES CONVERTS THE NETWORK FROM A RANDOM DISTRIBUTION TO AN ORGANIZED ONE AND SAVES OPERATION TIME AND ENERGY PER NODE. IT WAS FOUND OUT THAT USING COVERAGE SUB-NETWORKS BY DIVIDING THE NETWORK INTO THREE SUB-NETWORKS WITH OPERATION TIME OF 10 MINUTES PER SUB-NETWORK EVERY 30 MINUTES INCREASES THE NETWORK LIFE TIME BY 2.7% AND INCREASES THE ENERGY PERFORMANCE BY 63% AS COMPARED TO NORMAL FIRE DETECTION NETWORKS.