पेटेंट कार्यालय
शासकीय जर्नल

OFFICIAL JOURNAL
OF
THE PATENT OFFICE

निर्गमन सं. 35/2022	शुक्रवार	दिनांक: 02/09/2022
ISSUE NO. 35/2022	FRIDAY	DATE: 02/09/2022

पेटेंट कार्यालय का एक प्रकाशन
PUBLICATION OF THE PATENT OFFICE

(12) PATENT APPLICATION PUBLICATION
(19) INDIA
(22) Date of filing of Application :19/08/2022

(21) Application No.202211047363 A
(43) Publication Date : 02/09/2022

(54) Title of the invention : AN ANALYZING METHOD FOR OUTAGE PERFORMANCE OF THE CLUSTERING-BASED MULTIHOP COOPERATIVE ENERGY HARVESTING RELAY NETWORK

(51) International classification	:H04W0040220000, H04B0007155000, H04W0088040000, H04W0040120000, H02J0050200000
(86) International Application No Filing Date	:NA :NA
(87) International Publication No	: NA
(61) Patent of Addition to Application Number Filing Date	:NA :NA
(62) Divisional to Application Number Filing Date	:NA :NA

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(57) Abstract :
The present invention relates to an analyzing method (100) for outage performance of the clustering-based multi-hop cooperative energy harvesting relay network. The method (100) comprises a plurality of sensors, a plurality of relays operationally connected with the plurality of sensors, a memory unit configured to store machine language, and a processing unit. The method (100) investigates the performance of clustering-based multi-hop relaying with the partial relay selection (PRS) scheme for an energy harvesting (EH) relaying network. The method (100) involves analyzing the framework of the decode-and-forward (DF) relaying, adaptive power splitting (APS) protocol over symmetric and asymmetric fading channel models, outage probability, and effective transmission rate. The method (100) involves steps to compensate for the performance loss due to poor RF-to-DC conversion efficiency and path loss by exploiting the gain associated with multi-hop relaying and the diversity gain achieved through the PRS scheme.

No. of Pages : 13 No. of Claims : 4