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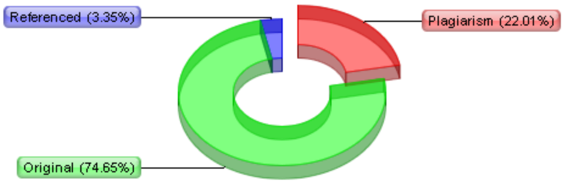

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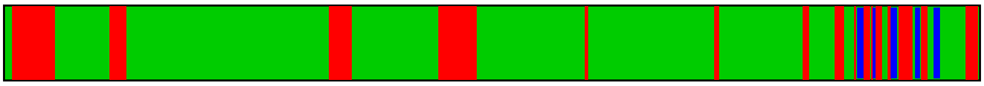

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I
MPLEMENTATION OF MULTIHOP PROTOCOL WITH COST FUNCTION FOR DECREASING ENERGY CONSUMPTION IN NODESAbstract
-- We present

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a routing protocol for Wireless sensor Networks that is reliable, power efficient, and has a high throughput (WSNs). To reduce energy consumption and increase network longevity, we employ a multi-hop topology. To identify the parent node or forwarder, we offer a cost function. The proposed cost function chooses a parent node with the highest residual energy and the shortest distance to the sink. The residual energy parameter balances energy consumption across sensor nodes, while the distance parameter guarantees packet delivery to the sink

is successful.Our suggested approach
decreases the energy consumption of nodes which helps in maximizing the network lifetime.Key words-- Wireless Sensor Network, Cost Function, energy consumption.INTRODUCTION
Technology advancements have created a numerous chances for resource efficiency in critical environments. In this context, Wireless Sensor Networks (WSNs) have ushered in a revolution. With the development of this technology, it became possible to collect and distribute useful information to the desired location
[1]. These schemes can be used to monitor applications such as battlefield surveillance, smart offices, traffic monitoring, and so on.

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A wireless sensor network (WSN) is often made up of a collection of sensors that probe their physical surroundings for data and send their findings to a central controller nearby. The controller collects all of the data from the

sensor nodes and connects the WSN to distant users who us
e it to plan specific actions [2]. WSNs are ad hoc networks in which sensor nodes are dispersed across a region of interest for real-time data extraction. Sensor nodes perform both sensing and routing functions. To transport data from the first source node to the destination node, multiple sensor nodes may be employed (i.e., multi-hop communication).Each sensor has a limited quantity of energy when a WSN is deployed. Sensors are fueled by the power subsystem, and every action a sensor takes has an energy cost that depletes the sensor's power over time. Some tasks, like as communication, necessitate a significant amount of power, but others, such as data processing and sensing, necessitate very little. When a sensor loses power, it loses the ability to sense data, communicate with other nodes, and route data. The loss of a single node has little impact on the WSN, but as more nodes die out, the network's performance degrades and becomes unreliable. Small and affordable devices come with a tradeoff: the network is resource constrained and has a finite lifespan.WSNs are used to monitor certain parameters in a variety of applications, including environment monit
oring, habitation monitoring, [3] war field, agriculture field monitoring, and smart homes. To monitor the field, these wireless sensors are scattered throughout the detecting region.Sensor nodes in WSNs are powered by a finite amount of energy. Data transmission from sensor nodes to sink must use the least amount of power possible. Battery recharge is one of the most difficult challenges in WSN. To address the problem of battery recharging, an efficient routing protocol is necessary. WSN technology [4], proposes a number of energy-efficient routing methods.For WSN, we present a routing protocol that is high throughput, reliable, and stable. In a given area, we set up sensor nodes. Near the sink, sensors are positioned. Because sensors carry data and require low attenuation, great reliability, and extended life, they always send data directly to the sink. Other sensors track their parent node and send data to the sink via the forwarder node. It conserves node energy and allows the network to operate for longer.
RELATED WORKS
For both civil and military purposes, wireless distributed micro sensor systems will allow for the dependable monitoring of a wide range of situations. These networks' overall energy dissipation can be influenced by communication protocols.

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LEACH (Low-Energy Adaptive Clustering Hierarchy) [5] is a clustering-based protocol that uses randomized rotation of local cluster-based station (cluster-heads) to distribute energy burden equitably among the sensors in the network. It enables scalability and robustness for dynamic networks

through localized coordination.Telemedicine and telecare, facilitated by a wireless sensor network (WSN), have lately emerged as a potential health-care trend. WSN's low data rate, on the other hand, hampered the service's acc
eptability. Several studies [6] used ZigBee-based WSN to build a platform and/or telecare system. An arrhythmia-aware telecare system is being developed, as well as a novel DSP-based WSN platform that allows for good digital signal processing performance in ZigBee-based WSN.IEEE 802.15.4 is a low-power, low-data-rate protocol with great dependability. It distinguishes between a beacon
ed and a non-beaconed variant. The undeaconed or unslotted version of the protocol's maximum throughput and shortest latency. The throughput and delay of a direct communication between one sender and one receiver are then given using an accurate formula [7]. This is done for the various frequency ranges and address structures used in IEEE 802.15.4, and the maximum throughput is determined by the packet size.For energy economy and network lifetime extension,

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cost function based routing has been extensively researched in wireless sensor networks. Existing methods, however, have various limits due to the intricacy of the situation
[8]. The fundamental factors, design concepts, and assessment methodologies for cost function based routing algorithms are investigated in this work. Its cost function can map minor changes

in nodal remaining energy to big changes in the function value, thanks to its routing based on Exponential and Sine Cost Function.

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METHODOLOGYA new technique to reduce energy use while increasing throughput. Our contribution consists of the following:
The stability period of
our proposed scheme is longer. Nodes are able to stay alive for longer periods of time while using the least amount of energy possible. High throughput is aided by a long stability period and low node energy consumption.
A.Proposed Protocol:
We deploy numerous nodes in a region under this scheme. The power and compute capability of all sensor nodes are identical. Two nodes are chosen, and these two nodes will transport data directly to the sink.
a)
First phase:During this phase, the sink sends out a brief data packet c
ontaining the sink's location in the area. Each sensor node stores the location of sink after receiving this control message. Each sensor node sends out a data packet that includes the node's ID, position in the area, and energy status. All sensor nodes are updated with the location of their neighbours and sink in this manner.b)
Forwarder Node Selection:We desig
ned a multi-hop approach for WSN in order to save energy and increase network throughput. The conditions for a node to become a parent node or forwarder are presented in this section. Proposed protocol elects a new forwarder in each round in order

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to balance energy consumption across sensor nodes

and reduce network energy usage.The ID, distance, and remaining energy status of the nodes are all known to the sink node. Sink calculates all nodes' cost functions and sends them to all nodes. Every node determines whether or not to become a forwarder node based on this cost function. I f n is the number of nodes, the following is the cost function for n nodes:C.F (
n)=The distance between nod
e n and sink is denoted by d (n) and R.E (n) is the residual energy of node n, determined by subtracting the current energy of node from the initial total energy. As a forwarder, it is preferable to use a node with a low cost function. All of the neighboring nodes join forces with the forwarder node and send data to it. Data is gathered and sent to the sink via the forwarder node. Because the forwarder node has the most residual energy and travels the shortest distance to the sink, it uses the least amount of energy to send data there. Two chosen nodes interact directly with the sink and are not involved in data transmission.c)
Scheduling:The forwarder node provides time slots to its progeny nodes using Time Division Multiple Access (TDMA) in this phase. Every child node sends its detected data to the forwarder node at a predetermined time. A node enters idle mode when it has no data to send. Only during transmission time do nodes wake up. The energy dissipation of individual sensor nodes is minimized when sensor nodes are scheduled. Performance metric of the proposed method is Energy consumption of nodes, here we use the residual energy parameter to study

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network energy consumption in order to investigate the energy consumption of

nodes every round.IV
. SIMULATION RESULT AND ANALYSISWe used MATLAB R2018
a to run for testing the proposed approach. We compared the proposed protocol's performance to that of the existing IEECP protocol.The suggested model employs a multi hop architecture, in which the data from each distant node is sent through a forwarder node to the sink. The cost function is used to select the forwarder node. In each round, choosing the right forwarder helps you save energy.
Our multi hop design uses a separate forwarder node in each cycle to transport packets to the sink, preventing overloading of a single node. /w:t /w:r w:r w:rsidR
V. /w:tCONCLUSIONWe propose a data routing me
chanism in WSNs in this research. To choose an appropriate route to sink, the suggested scheme uses a cost function. The cost function is determined by the nodes' leftover energy and their distance from the sink. The parent node is chosen by the nodes with the lowest cost function value. Other nodes join the parent node as children

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and send their data to it. Due to their proximity to the sink, two nodes forward their data directly to

it; yet, these two nodes cannot be elected as parent nodes because both sensor nodes contain crucial and important data. It is not necessary for these two nodes to expend energy forwarding data from other nodes. The suggested routing strategy decreases the energy consumption of nodes..
VI.
REFERENCES[1]

Plagiarism detected: **0.95%** https://shsfeapi1.pdc-gate2.com/get_doc.php?... + 6 resources! id: **8**

T. Shah, N. Javaid, T. N. Qureshi, "Energy Efficient Sleep Awake Aware (EESAA) Intelligent Sensor Network Routing Protocol,

" https://ieeexplore.ieee.org/xpl/conhome/6507006/proceeding
2012 15th International Multitopic Conference (INMIC).[2]

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Y. Ebrahimi and M. Younis,

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"Using deceptive packets to increase base station anonymity in Wireless Sensor Network,"

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in Proc. Wireless Communications and Mobile Computing Conference, 2011, pp. 842-847.

[3] aring,

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Alan, et al.

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"Wireless sensor networks for habitat monitoring."

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Proceedings of the 1st ACM international workshop on Wireless sensor networks and applications. ACM, 2002

[4] N. Javaid, U. Qasim,

Plagiarism detected: **0.58%** https://shsfeapi1.pdc-gate2.com/get_doc.php?... + 3 resources! id: **15**

Z. A. Khan, M. A. Khan, K. Latif and A. Javaid,

Quotes detected: **0.68%** id: **16**

"On Energy Efficiency and Delay Minimization in Reactive Protocols in Wireless Multi-hop Network",

Plagiarism detected: **1.21%** http://bbcr.uwaterloo.ca/~xshen/paper/2012/dp... + 14 resources! id: **17**

2nd IEEE Saudi International Electronics, Communications and Photonics Conference (SIECPC 13), 2013, Riyadh, Saudi Arabia.[5]
Heinzelman, Wendi Rabiner, Anantha Chandrakasan, and Hari Balakrishnan.

Quotes detected: **0.37%** id: **18**

"Energy-efficient communication protocol for wireless microsensor networks."

Plagiarism detected: **0.79%** http://bbcr.uwaterloo.ca/~xshen/paper/2012/dp... + 16 resources! id: **19**

System Sciences, 2000. Proceedings of the 33rd Annual Hawaii International Conference on. IEEE, 2000.[6

]
D. Malan, T. Fulford-Jones, M. Welsh, and S. Moulton,

Quotes detected: **0.58%** id: **20**

"CodeBlue: An Ad Hoc Sensor Network Infrastructure for Emergency Medical Care,"

International Workshop on Wearable and Implantable Body Sensor Networks, 2004. [7] Latré, B., P.D. Mil, I. Moerman, B. Dhoedt, P. Demeester and N.V. Dierdonck, 2006. Throughput and delay analysis of unslotted IEEE 802.15.4. J. NetWork., 1(1): 20-28.[8]
Liu, A., Ren, J., Li, X., Chen, Z., & Shen, X. (Sherman). (2012).

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Design principles and improvement of cost function based energy aware routing algorithms for wireless sensor networks. Computer Networks, 56(7), 1951-1967