

(12) PATENT APPLICATION PUBLICATION

(21) Application No.202411043338 A

(19) INDIA

(22) Date of filing of Application :04/06/2024

(43) Publication Date : 14/06/2024

(54) Title of the invention : SYSTEM AND METHOD TO DETECT ELECTRICAL SPARK

(51) International classification :G01R0031520000, G08B0017120000, H02H0001000000, H02H0003160000, G01R0019250000

(86) International Application No :NA
 Filing Date :NA

(87) International Publication No : NA

(61) Patent of Addition to Application Number :NA
 Filing Date :NA

(62) Divisional to Application Number :NA
 Filing Date :NA

(71)Name of Applicant :
1)Chitkara University
 Address of Applicant :Chitkara University, Chandigarh - Patiala National Highway, Village Jhansla, Rajpura, Punjab - 140401, India. Patiala -----

2)Chitkara Innovation Incubator Foundation
 Name of Applicant : NA
 Address of Applicant : NA

(72)Name of Inventor :
1)KUMAR, Ramesh
 Address of Applicant :DICE, Chitkara University, Chandigarh - Patiala National Highway, Village Jhansla, Rajpura, Punjab - 140401, India. Patiala -----

2)SINGH, Ashish Kumar
 Address of Applicant :Assistant Professor, Computer Science Engineering, Chitkara University, Chandigarh - Patiala National Highway, Village Jhansla, Rajpura, Punjab - 140401, India. Patiala -----

3)ANEJA, Rattan Deep
 Address of Applicant :Computer Science Engineering, Chitkara University, Chandigarh - Patiala National Highway, Village Jhansla, Rajpura, Punjab - 140401, India. Patiala -----

4)PURI, Arjun
 Address of Applicant :Computer Science Engineering, Chitkara University, Chandigarh - Patiala National Highway, Village Jhansla, Rajpura, Punjab - 140401, India. Patiala -----

(57) Abstract :

A system (100) to detect electrical sparks and short circuits is disclosed, that prevent fire accidents and property damage. The system (100) includes an antenna (102) to detect electromagnetic field (EMF) radiation from high voltage arcs, a resonant circuit (104) to filter and resonate at specific frequencies, an amplifier (106) to boost the resonant signal, which is analyzed by a control unit (112), and a comparator board (114) verifies short circuits by monitoring current flow and comparing with expected values, triggering a power cut-off if a fault is confirmed. The system (100) also includes a GPS unit (116) for precise location tracking of faults and can notify relevant authorities with detailed information. This system is versatile and suitable for various environments, offering a cost-effective and efficient solution that surpasses conventional smoke and flame detectors. This ensures robust protection and swift response to electrical faults, enhancing overall safety.

No. of Pages : 20 No. of Claims : 10