

Application of remote sensing technology in earthquake prediction

Wang yuke

Chengdu Railway Middle School Sichuan Chengdu 610081

Abstract: earthquakes are common natural disasters , China is an earthquake-prone country , Geological Construction complex , is a generalized shallow source seismic activity area , Strengthen earthquake prediction work for It is important to avoid loss of people's property . can be in time , exact , Effective earthquake prediction , monitoring and earthquake relief work is very necessary . The main stitch of this article Application of remote sensing technology in earthquake prediction work analysis .

Keyword: Application of seismic prediction by remote sensing technology

Figure category number in : TP Document identification code : A

China at the junction of Eurasia Continental plate , Slow motion of the continental plate , makes our country The frequency of earthquakes in is relatively high .. so , can be in time , exact , effectively , earthquake prediction , monitoring and earthquake relief work is very necessary . . Remote sensing technology features high efficiency information collection , gets a larger amount of information , A variety of ways and intervals shorter wait , to guarantee all aspects H Dynamic monitoring of , So it is used for earthquake prediction , The field investigation of earthquake disasters and the calculation of losses after earthquakes are a more valuable topic . This paper briefly describes the application of remote sensing technology to earthquake prediction .

1. Remote sensing technology and earthquakes

Remote sensing technology (RS) refers to the ability to get remotely by using a certain way Object various information for . Use remote sensors to get various numbers of target objects in a long distance according to , to analyze and study the collected data in a specific way , To get the target The object is related to . Remote Sensing technology is based on the relationship between the electromagnetic wave and the Earth's surface. , purpose to detect , Analysis , to study Earth's existing resources and ground face , is the characteristic of space and time on the surface of the earth and the change of regularity New technologies for research . The advantages of remote sensing technology are general strong , Comprehensive Excellence , Macros View Control strong , with visual visibility etc , to maximize the prevention of artificial interference , while reasonably allocating limited resources , to enable data from the quake zone to be transmitted efficiently fast . Compare remote sensing technology with traditional seismic detection technology , can find remote sensing technology more advanced , more scientific and more time-sensitive , To make the use of for prediction of earthquakes has important practical significance .

The essence of an earthquake is a structure in the Earth's interior that causes a sudden rupture. waves , triggering an earthquake in a range . earthquakes are accompanied by disaster and danger insurance , has suddenness , harm severity and impact characteristics , is one of the most dangerous natural disasters that are internationally recognized as . Our country is located in the Asian-European continental plate junction Place , frequent crustal movement , The number of earthquakes is also relatively high . World Wide the death toll in the first ten

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earthquakes , Half of occurs in our country . Using remote sensing technology earthquake prediction , earthquake disaster investigation and loss assessment, etc. various processing work after earthquake pre -Quake, improved accuracy

of earthquake predictions , to effectively control and reduce the number of issues after earthquakes live .
is currently , Remote Sensing technology has been widely used in the planning of post-disaster reconstruction projects with , in strong earthquake zone , The use of remote sensing technology can also be used to evaluate post-disaster reconstruction efforts show , provides management with solid technical support . Using remote sensing technology , also get take geographic data from the earthquake area , providing scientific science and technology insurance for post-disaster reconstruction work
article number : 1672-3791 (2016) (c) -0009-02 barrier .

2. Remote sensing technology applied to earthquakes

Traditional earthquake prediction , Seismic Survey , Disaster Understanding information collection methods only The can be used for field surveys such as . Although the number of accuracy and credibility can be obtained information , But it comes with huge labor and cost inputs . Use of remote sensing to optimize the traditional field survey method of defects , Comes with more advanced , The Processing of various stages of more scientific earthquakes , Its application in the field of earthquakes has a large . Remote sensing technology primarily based on space remote sensing image resolution , accompanying High Resolution imaging technology development , Drive the remote sensing technology at various stages of the earthquake Universal use .

3. Application of remote sensing technology in earthquake prediction

prediction of Earthquakes is an international research topic , is mainly due to earthquakes causes complexity and diversity , and subject to current scientific and technological constraints , failed form effective , Accurate earthquake prediction work . Now application of satellite remote sensing technology to earthquake prediction research is in the process of development , comes with a lot of hurdles. to conquer , Now researchers focus on using remote sensing technology for earthquakes before the earthquake Monitoring , Its center is the detection of thermal anomalies in the seismic Zone . the surface temperature anomalies of the Before the "" before the earthquake occurred in international history there are many records , Our historical literature also The has a lot of data documenting the surface temperature anomalies during earthquakes .

When a strong earthquake occurs , The temperature will appear in a certain range around the epicenter location Elevated conditions , Meanwhile this temperature increase includes air temperature , surface temperature and ground table Lower layer temperature . Traditional seismic prediction techniques for temperature changes before earthquakes major is the temperature monitored by the National network , the shallow ground temperature and medium , Deep water temperature etc data analysis ,At the same time, the surface of the area near the epicenter and the underground temperature of the specified depth analysis of the situation changes . However, it has some limitations , only Monitoring bureau site Set temperature exceptions , Unable to form a range of temperature trends data . Hot Infrared remote feature is overlay , on hdynamic information monitoring , information diversity , so enables continuous monitoring of thermal anomaly information images in the quake zone .

4. Application of remote sensing technology in earthquake disaster assessment

the acquisition and assessment of earthquake disaster is an effective way to reduce the impact of disasters , but pass Information Technology
Contest Video Information , Competition video playback .

5. feature module detailed design

5.1 The detailed design of the home Page feature module

The first page of the Web site is , is the façade of a Web site . This web page shows a lot of information , Top of the

page is a number of feature links , including the navigation letter of the interface rest , User login , links to user registration , Contest Data list ; There is a login and at the bottom left Register interface and Information search interface ; The middle of the page is the latest information and video , To allow Users Browse to the primary information and information in the first time .

5.2 Register user and Account management Information module

Register user and account management information module including user registration , Login , administrators to User information for administrative functions . User registration information includes user logon account , secret code , gender , real name , phone , address , zip code, etc .

5.3 Course Information Management Module

The Information Management module includes student foreground view information content and list , Background Management add , Modify , Remove information and other feature modules .

The Information List feature module includes data listing information , Specific information title , Publish time , Information category , information content, and so on .

Add information module , is the function of the background administrator to add information , added Letter Message title , Information category , information content, and so on .

administrators can view at the same time , actions such as modifying or deleting information .

5.4 Account Management module detailed design

The account Management module is a function mode that manages users who use the site backend block , including add , Modify , Delete account information and other feature modules .

5.5 test topic Information Management Module design

Test Topic Information management process is a teacher login to the system to add Test topic letter ,, students download test topics in the foreground and upload their own test topic information , then teacher sees student's test topic and scores test topic . students can then see their own test topic score Information User Center .

6. Epilogue

uses the ASP . NET Technology development of a computer programming contest tutoring System , to provide appropriate information to users who need it . Computer Programming Contest Tutoring System can greatly improve the flexibility of competition coaching , It enables network learners to learn from the complex Miscellaneous Learning is free , can save a lot of learning time , Improve learn learn efficiency . other , Computer Programming Contest Tutoring system is also a teacher and students communicate with each other platform , Help teachers to understand the current learning situation of students and give timely answers to questions posed by students . last, system also enables teachers on Pass Learning data exercise , and teachers can improve the knowledge elements in the system at any time to fit the should require professional development .

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