

Let us enjoy Geo-Tetsu - a proposal of Geo-tours through Train Windows (First proposal of its course, JR Dosan Line in Shikoku)

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1. Introduction

There are stories of the Earth which can be perceived only by eye-lines through train windows. This is the Geo-Tetsu, a new tool of dissemination of earth sciences to the general public. Japan is covered by a dense network of railway lines, even over its mountainous parts. Trains dash on the plains and get into the valleys to cross the water divides through tunnels. Trains turn around at the switch back tracks giving good views behind and follow the loop lines to offer passing sceneries to look at. Everything you see through train windows bears something geoscientific. Tetsu means the abbreviation of railway in Japanese, and is also used as a word that indicates the railway fan. If you can enjoy such Geo-Tetsu, you are already a genuine Geo-Tetsu freak. Here the JR Dosan Line is presented as a first example of Geo-Tetsu.

2. Aims of Geo-Tetsu

Railway is the commonest transportation system in Japan. Everybody loves to ride trains. Geo-Tetsu offers the chances to get contact with the geoscientific features observable through train windows. Here in Geo-Tetsu, geologic and geographic features of the sceneries are explained plainly but scientifically by a guide-book prepared by a group of specialists. Therefore, the Geo-Tetsu can offer the opportunities to get contact with geoscience in travelling by trains. It is nowadays said that people become less and less aware of natural sciences in this country. Geo-Tetsu could, we hope, make people's eyes direct to geosciences, or eventually toward natural sciences.

3. Selection of Geo-Tetsu courses and Geo-sites alongside

We selected Geo-Tetsu courses through which people can see representative geoscientific phenomena through train windows. They are better accompanied by walking paths accessible at the stopovers alongside the railway routes. Availability of short histories about the selection of the rail routes is also taken into consideration. In short, the routes should offer the chance for geosciences to be seen, touched and felt through train travelling. As many information as obtainable are gathered from various perspectives; railway itself, geology and geography, and sight-seeing as well. A group of specialists compiled a guide-book using gathered information which is a key element of the Geo-Tetsu.

4. JR Dosan Line, a first example of Geo-Tetsu

1) The Dosan Line is the main street of Shikoku

It is 198.7 km in total distance, crossing transversally Shikoku Island from Tadotsu facing the Seto-Inland Sea to Kubokawa on the Pacific coast. Many express trains are available readily to enjoy passing sceneries as Geo-Tetsu, but if you take a local train to enjoy a slow life, you can not only see many Geo-sites through windows, but also enjoy a short trekking during a stopover everywhere you want.

2) Rich sight-seeing resources

The Dosan Line crosses the whole geologic structure of Shikoku from North to South. This offers an opportunity to see the basic structural elements of the country. Such Geo-Sites as the fault-line valley along the representative active Median Tectonic Line, ever uplifting Shikoku mountain and its famous Oboke-Kobo rocks exposed in the rapidly down-cutting valley, the crystal-clear Shimanto River last river unaffected by humans are all accessible easily by yourself.

3) Technology overcoming the difficult conditions

The Dosan Line was planned and constructed with difficulties because of rugged topography and complicated geology. There are many steep slopes, sharp curves, and natural disasters caused by fragile foundations along the routes. Many technological inventions were introduced to overcome these difficulties: two switch-back operations, the world-first controlled tilting system for diesel railcar and variety of counter-measures against the slope disasters. You can touch the advancing technologies to maintain the safety of the Dosan Line.