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[\[Communications\] Academia Sinica Presents New Technology for High Speed Transport Communications](#)[\[Communications\] Academia Sinica Presents New Technology for High Speed Transport Communications \(Chinese Version\)](#)

China Times E-paper (2012/03/29) The situation of poor high-speed transport mobile communications could be improved. A research team at Academia Sinica just completed the development of a communication system for mobile phone users on high-speed rail trains. The system takes the time difference between the timing of the train head's and the tail's passing through the border of the signal scopes of the two nearest stations to solve the problem and allow the mobile communications including cellular phone communication and mobile internet communication to become available.

Postdoctoral Research Fellow at Research Center for Information Technology Innovation, Academia Sinica Cheng-Wei LEE indicated, the difficulty for high-speed transport communications is caused by the power insufficiency of the communication devices that leads to the fact that the high-speed train has passed by before the first station refers its connection to the device to the second station.

According to LEE's analysis, in a case of a train between one to four hundred meters long with a speed about 450 km/h, it only takes between 0.8 to 3.2 seconds from its head's passing through the border between two station's signal scopes to its tail's passing through. That means, in order to maintain the connection of the mobile communications, the connection reference between the two stations has to be done within such a short period.

The team innovates a globally novel solution to the problem. By equipping the train with two antennae on the head side and the tail side that can access the network of the stations, the "intranet" connecting the stations could reduce the time difference of the connection reference and come up with the high-speed trains. With the services, no matter the mobile phone communications or the mobile internet communications will be both available. Now the technology has been applied for patents in Taiwan, the U.S. and China.

Reference:

[China Times E-paper 2012/03/29](#) (Chinese)

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[National Science Council International Cooperation Sci-Tech Newsbrief](#)

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