

# KTX Characteristics of Lateral Acceleration for Train Crossing of KTX Train

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Key words : Train crossing, KTX, Dynamic behavior

1.  
KTX 가 KTX  
가  
가  
KTX KTX  
KTX KTX

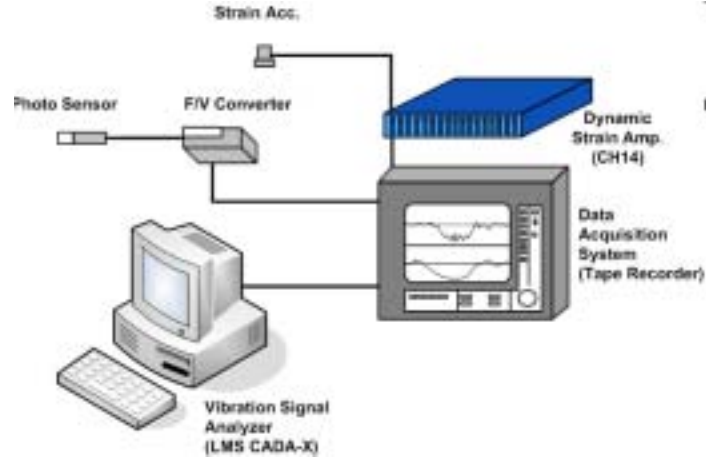


Fig. 1 Vibrating signal measurement system

2. KTX  
KTX 가 가  
2007 4 25  
KTX #12 3  
table 1

Table 1 Examination measurement equipment

Name	Tech. Spec.	No.	Remarks
Accelerometer	Strain Acc	3	vibration
Amp.	Dynamic strain Amp	1	
Tape recorder	Sony SIR 1000	1	data
Photo sensor	E3S CD11	1	speed
F/V converter	K3RT - NB11A	1	speed
Signal data processing	LMS CADA - X	1	

KTX #12 3  
가  
Sony (Sony SIR 1000)  
Fig. 2

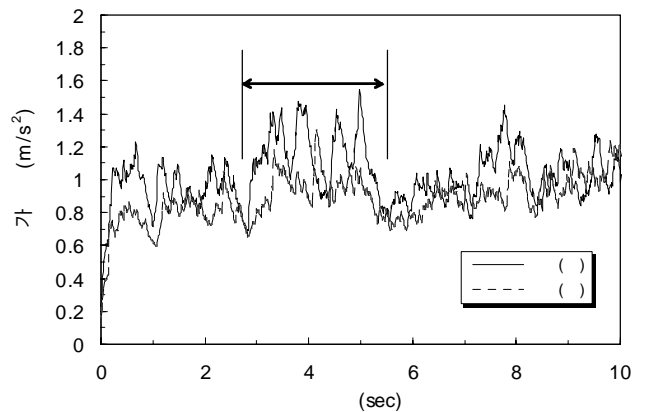


Fig. 2 Lateral acceleration change rate at train crossing ; high speed line

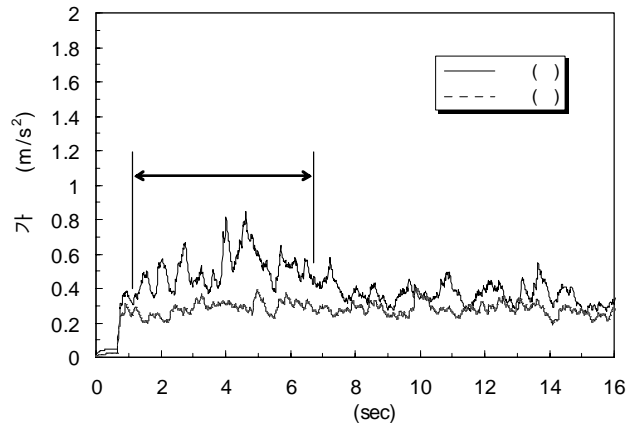


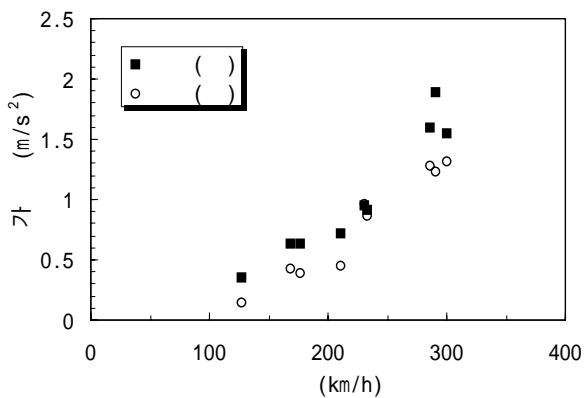
Fig. 3 Lateral acceleration change rate at train crossing ; conventional line

KTX #12  
 가  
 ( )  
 KTX 가  
 Fig. 4 KTX #12 KTX 가  
 가  
 5.0m  
 300km/h  
 110 - 150km/h  
 KTX  
 KTX  
 가  
 가

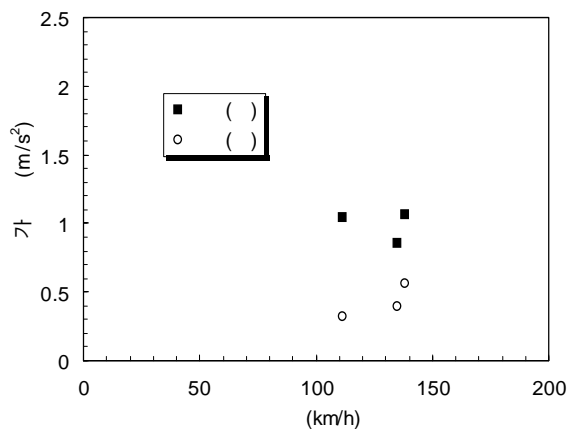
Fig. 4 KTX 300km/h  
 가  
 가 350km/h  
 가  
 2.5m/s² 가  
 특히 차체 횡 방향 가속도에 대한 기준은 UIC CODE 518(Testing and approval of railway vehicles from the point of view of their dynamic behavior - Safety - Track fatigue - Ride quality)  
 table 2

Table 2 Principle vehicle approval standard value of UIC 518

Analysis method	Analysis item	Standard value
Normal method	Running behavior	lateral acceleration : 2.5m/s <sup>2</sup> vertical acceleration : 2.5m/s (at 10Hz lowpass filter)
Simplified method	Safety	straight track and large-radius curves - lateral acceleration : 3m/s <sup>2</sup> small-radius curves 400m R 600m - lateral acceleration : 2.8m/s <sup>2</sup> 250m R 400m - lateral acceleration : 2.6m/s <sup>2</sup> (at 10Hz lowpass filter)



(a) High speed line



(b) Conventional line

Fig. 4 Max. lateral acceleration change rate at train crossing

Table 2 UIC 518  
 10Hz lowpass filter  
 KTX 가  
 300km/h  
 350km/h 가  
 4.  
 KTX 가  
 KTX 가 300km/h  
 350 km/h 가  
 UIC 518  
 2.5m/s² 가  
 5.0m  
 가

1. "KTX 차량 종합계측시험 자문 보고서", 한국철도기술연구원 2007. 06.