

AHG8: Unrestricted Motion Compensation for 360 Video in ERP Format

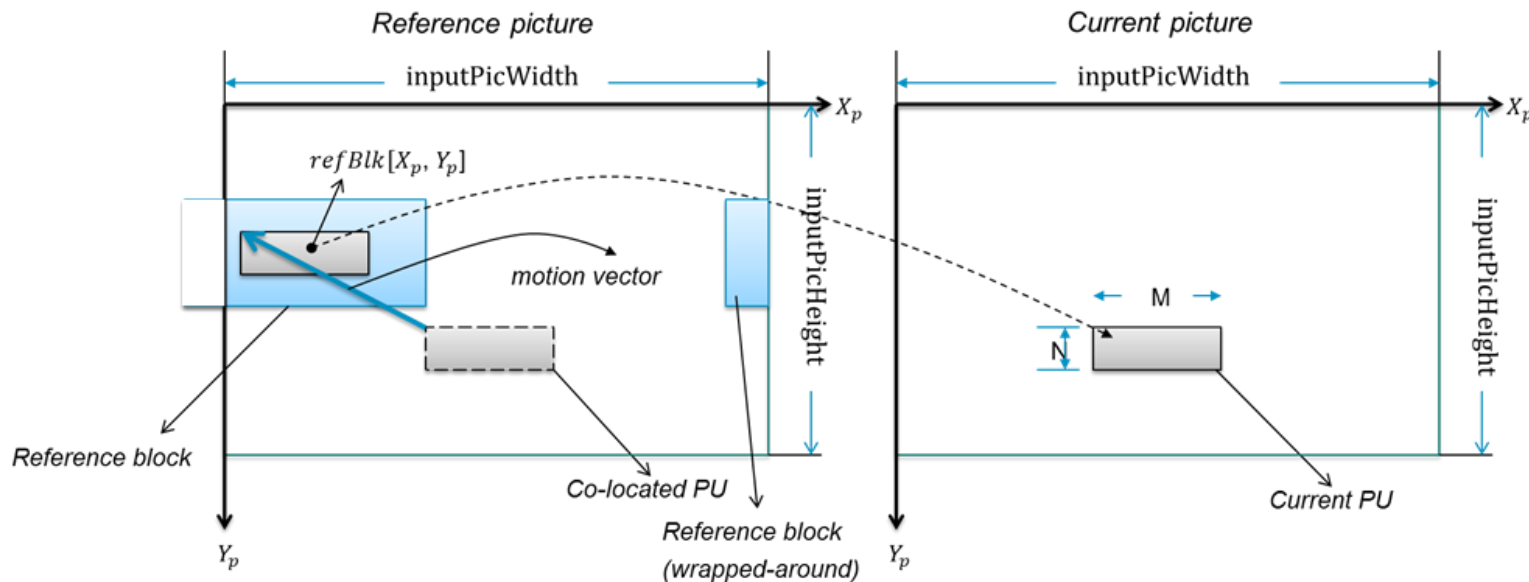
JVET-E0065

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Unrestricted Motion Compensation for ERP

- In ERP no discontinuous edge exists between the left and right picture boundary
- Unrestricted motion compensation (UMC) in wrapped around fashion potentially can improve compression efficiency



Experimental Results – HM16.14

	Random Access Main -10														
	CPP-PSNR			WS-PSNR (End to End)			PSNR_Viewport0			PSNR_Viewport1			Codec PSNR		
	Y	U	V	Y	U	V	Y	U	V	Y	U	V	Y	U	V
Tain	-0.2%	-0.4%	-0.2%	-0.2%	-0.4%	-0.2%	-0.1%	-0.4%	-0.1%	-0.5%	-0.8%	-0.2%	-0.2%	-0.3%	-0.2%
Skateboarding_trick	0.0%	-0.1%	0.0%	0.0%	-0.1%	0.0%	0.0%	0.0%	0.1%	0.0%	0.3%	0.0%	0.0%	0.0%	0.0%
Skateboarding_in_lot	-0.4%	-0.9%	-1.1%	-0.4%	-0.9%	-1.1%	-0.2%	-0.2%	-0.2%	-0.2%	-0.3%	-1.1%	-0.4%	-0.9%	-1.2%
Chairlift	-0.6%	-0.8%	-0.5%	-0.6%	-0.8%	-0.5%	-0.4%	-0.3%	-0.3%	-1.5%	-2.3%	-1.9%	-0.6%	-0.8%	-0.6%
KiteFlite	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	-0.2%	0.2%	-0.1%	0.1%	0.0%	0.0%	0.0%	0.0%
Harbor	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.4%	0.0%	0.1%	0.1%	0.0%	0.0%	0.0%
PoleVault	0.0%	-0.1%	-0.1%	0.0%	0.0%	-0.1%	0.0%	0.0%	-0.2%	0.0%	-0.2%	-0.1%	0.0%	-0.1%	-0.2%
AerialCity	-0.2%	-0.1%	-0.2%	-0.2%	-0.1%	-0.2%	-0.1%	-0.1%	-0.1%	-0.3%	-0.1%	-0.2%	-0.2%	-0.2%	-0.2%
DrivingInCity	-0.1%	-0.1%	-0.2%	-0.1%	-0.2%	-0.2%	0.0%	-0.3%	-0.2%	-0.1%	-0.1%	0.4%	-0.1%	-0.2%	-0.2%
DirvingInCountry	-0.3%	-0.4%	-0.4%	-0.3%	-0.4%	-0.4%	-0.1%	-0.2%	-0.1%	-0.4%	-0.6%	-0.4%	-0.2%	-0.3%	-0.3%
Overall	-0.2%	-0.3%	-0.3%	-0.2%	-0.3%	-0.3%	-0.1%	-0.2%	0.0%	-0.3%	-0.4%	-0.3%	-0.2%	-0.3%	-0.3%

Experimental Results – JEM4.1

	Random Access Main -10														
	CPP-PSNR			WS-PSNR (End to End)			PSNR_Viewport0			PSNR_Viewport1			Codec PSNR		
	Y	U	V	Y	U	V	Y	U	V	Y	U	V	Y	U	V
Tain	-0.4%	-0.7%	-0.4%	-0.4%	-0.7%	-0.4%	-0.3%	-0.4%	-0.1%	-0.8%	-1.9%	-1.2%	-0.4%	-0.6%	-0.4%
Skateboarding_trick	0.0%	-0.3%	0.0%	0.0%	-0.4%	-0.1%	0.0%	0.1%	0.5%	0.0%	-0.7%	-0.6%	0.0%	0.0%	0.0%
Skateboarding_in_lot	-0.5%	-1.4%	-1.4%	-0.6%	-1.4%	-1.4%	-0.2%	-0.8%	-0.5%	-0.2%	-0.2%	-1.3%	-0.5%	-1.4%	-1.5%
Chairlift	-1.0%	-1.6%	-1.2%	-1.0%	-1.6%	-1.2%	-0.4%	-0.6%	-1.0%	-2.4%	-4.0%	-4.0%	-1.1%	-1.7%	-1.4%
KiteFlite	0.0%	0.0%	0.0%	0.0%	0.0%	-0.1%	0.0%	0.0%	-0.1%	0.0%	0.3%	0.1%	0.0%	0.0%	0.0%
Harbor	0.0%	-0.2%	0.1%	0.0%	-0.2%	0.1%	0.0%	-0.7%	-0.2%	-0.1%	-0.3%	-0.1%	0.0%	-0.2%	0.1%
PoleVault	0.0%	-0.1%	0.0%	-0.1%	-0.1%	0.0%	0.0%	-0.2%	-0.1%	-0.1%	-0.1%	-0.1%	0.0%	-0.1%	0.0%
AerialCity	-0.2%	-0.3%	-0.3%	-0.2%	-0.3%	-0.3%	-0.1%	-0.1%	-0.2%	-0.3%	-0.1%	-0.3%	-0.2%	-0.4%	-0.3%
DrivingInCity	-0.2%	-0.4%	-0.5%	-0.2%	-0.5%	-0.6%	-0.1%	0.0%	-0.5%	-0.1%	-0.3%	0.0%	-0.2%	-0.6%	-0.5%
DirvingInCountry	-0.4%	-0.4%	-0.9%	-0.4%	-0.5%	-1.0%	-0.1%	-0.6%	-0.5%	-0.6%	-0.4%	-0.9%	-0.3%	-0.4%	-1.1%
Overall	-0.3%	-0.5%	-0.5%	-0.3%	-0.5%	-0.5%	-0.1%	-0.3%	-0.3%	-0.5%	-0.8%	-0.8%	-0.3%	-0.6%	-0.5%