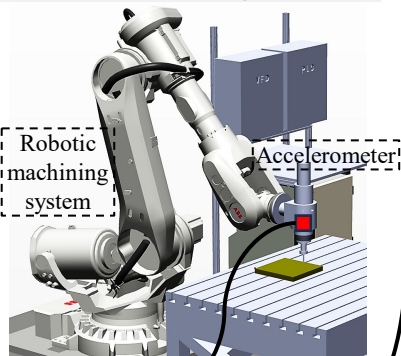


Online chatter monitoring and suppression through SSV

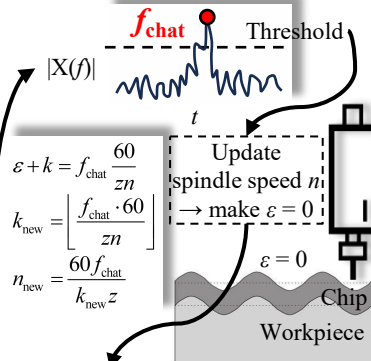
Chatter monitoring via FFT



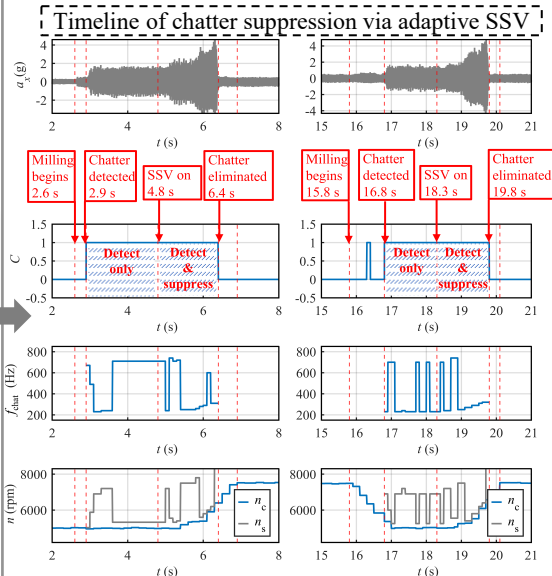
$\mathcal{F}\{\text{signal}\}$

FFT + notch filter
+ threshold $\rightarrow$ find f_{chat}

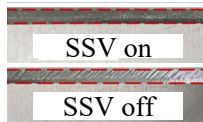
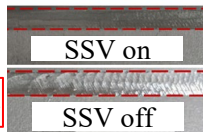
Chatter suppression via spindle speed variation



Suppression performance



Effectiveness of chatter suppression



CONCLUSION:
Chatter suppressed within 1.6 s with 90% vibration reduction using FFT-SSV real-time control.