very weakly with the underlying substrate \[47,48\]. It is the weakness of this interaction that explains why rotational stacking faults can easily occur and why the graphene sheets can relax the thermal stress by forming wrinkles or pleats.

Finally, on the G band intensity map we can see several points marked in blue. These blue points correspond to area where crystalline silicon clusters were found. One of the corresponding uncorrected Raman spectrum is shown in Fig. 7. The presence of these crystalline silicon (c-Si) clusters is evidenced by the sharp and intense band around 532 cm\(^{-1}\) blue shifted compared to bulk silicon. This high blue shift is again due to a strong compressive stress induced by the SiC substrate (-2 GPa or a strain of -1.3%). First-order Raman spectrum extracted from the Raman mapping that corresponds to one of the blue point in the G band intensity map. The first-order Raman scattering of SiC correspond to the bands at 764, 786 and 964 cm\(^{-1}\). Its second overtone falls between 1400 and 2000 cm\(^{-1}\) with the sharp G band around 1590 cm\(^{-1}\). The 2D band is around 2780 cm\(^{-1}\). No D band can be seen on this point. The sharp and intense band around 532 cm\(^{-1}\) correspond to a crystalline Si cluster that is highly compressively stressed by the SiC substrate.

Fig. 7 Uncorrected Raman spectrum extracted from the Raman mapping that corresponds to one of the blue point in the G band intensity map. The first-order Raman scattering of SiC correspond to the bands at 764, 786 and 964 cm\(^{-1}\). Its second overtone falls between 1400 and 2000 cm\(^{-1}\) with the sharp G band around 1590 cm\(^{-1}\). The 2D band is around 2780 cm\(^{-1}\). No D band can be seen on this point. The sharp and intense band around 532 cm\(^{-1}\) correspond to a crystalline Si cluster that is highly compressively stressed by the SiC substrate.

been evidenced by magnetoresistance experiments performed on several Hall bars with different orientations [29].

5 Conclusions

Reviewing recent Raman imaging experiments performed on epitaxial graphene grown on the C and Si face of 6H SiC substrates, we have shown the benefits of combining Raman spectroscopy with micro-transmissions measurements. Provided the relative extinction of FLGs can be obtained, this enables to determine (without any ambiguity) the thickness, homogeneity and stacking order (Bernal or turbostratic) of FLGs. On the C-