Morpurgo *et al.* Reply: In a recent Letter [1] we reported our experimental investigations of Aharonov-Bohm (AB) conductance oscillations in the presence of strong Rashba-type spin-orbit interaction. There, we stressed the importance of the ensemble average Fourier spectrum of AB oscillations, as opposed to the Fourier spectrum of the ensemble average magnetoresistance. Specifically, we argued that an average of the spectrum does not suppress the h/e peak, so that averaging can be used to remove undesired samples' specific effects hiding small interesting features of the AB oscillations, whereas the same is not true for the spectrum of the ensemble average magnetoresistance. In [1], we have shown experimentally that, indeed, by averaging the spectrum of the AB oscillations we can resolve in our data a sharp splitting in the frequency of the AB oscillations. However, in the preceding Comment [2], De Raedt criticizes several aspects of the procedure used in [1] and the conclusions there obtained. We do not agree with these criticisms.

In his Comment, De Raedt claims that the ensemble average Fourier spectrum [$F_{65}(\omega)$ in [2]] is not a particularly relevant quantity. He stresses that Fig. 1 of Ref. [2] shows how the use of the Fourier spectrum of the average magnetoresistance [$P_{65}(\omega)$] brings out a richer internal structure of the h/e peak much more clearly than what $F_{65}(\omega)$ does. Note, though, that this structure is simply due to random sample specific fluctuations of the conductance. If this structure had a deeper meaning, one should see a correspondingly large structure in the ensemble average spectrum $F_{65}(\omega)$. This is not the case. It might be argued that the side lobes visible in $F_{65}(\omega)$ correspond to some of the structure seen in $P_{65}(\omega)$. However no structure in $P_{65}(\omega)$ exactly matches the position in frequency of the side lobes, whereas the position of the central splitting [3], to which we attribute significance, is exactly the same in $P_{65}(\omega)$ and $F_{65}(\omega)$ (see also below). It is important to stress that $F_{65}(\omega)$ being a smoother curve than $P_{65}(\omega)$ is what one expects within the physical picture proposed in [1], since $F_{65}(\omega)$ is more effective than $P_{65}(\omega)$ in averaging sample specific fluctuations. This fact proves our statement about the relevance of the ensemble average spectrum of the AB conductance oscillations.

Another criticism relates to the relative intensities of the subpeaks in the splitting of $F_{65}(\omega)$, which De Raedt finds to depend on the data processing procedure. However, not mentioned in [2] and much more important in our view, is the fact that *the two subpeaks are visible at the same frequency for different data analysis procedures,* i.e., for different degrees of smoothing and when the spectrum is calculated using different "windows" [4]. We checked this fact ourselves and De Raedt's analysis has confirmed this conclusion more extensively. This implies that the ensemble average spectrum calculated from our data *exhibits a frequency splitting whose magnitude does not depend on the data analysis procedure*. This is the result reported in [1].

Finally, having observed that the relative fluctuations present in $P_5(\omega)$ are larger than those seen in $P_{65}(\omega)$, De Raedt concludes that the statistical properties of the magnetoresistance traces used to calculate the averages are not compatible with the hypothesis made in [1] (i.e., that the statistical properties of these curves are equivalent to those of curves that one would obtain by measuring the magnetoresistance of different microscopic realization of the same sample). We find this conclusion unjustified, since De Raedt's argument neglects two important facts: (i) not all of the curves over which we average are statistically independent, as explicitly mentioned in [1]; (ii) the presence of experimental noise (visible also in Fig. 1 of Ref. [2], in the frequency interval outside the domain of the h/e peak), which is uncorrelated in different traces. (i) and (ii) imply that experimental noise is suppressed by the average faster than sample specific fluctuations and it explains why the relative fluctuations in $P_{65}(\omega)$ are smaller than in $P_5(\omega)$.

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[1] A. F. Morpurgo *et al.*, Phys. Rev. Lett. **80**, 1050 (1998).
[2] H. De Raedt, preceding Comment, Phys. Rev. Lett. **83**, 1700 (1999).
[3] A feature corresponding to the central splitting is seen also in $P_{65}(\omega)$ (Fig. 1 of Ref. [2]); however, if one confines his attention to $P_{65}(\omega)$ only, it is difficult to discriminate this feature from other structures of sample specific nature.
[4] See Ref. [4] in [2]. A minimum amount of smoothing is required to observe the splitting, but the frequencies at which the subpeaks appear are not sensitive to the exact amount.

