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Borel σ -algebra

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For any topological space X , the *Borel sigma algebra* of X is the σ -algebra \mathcal{B} generated by the open sets of X . In other words, the Borel sigma algebra is equal to the intersection of all sigma algebras \mathcal{A} of X having the property that every open set of X is an element of \mathcal{A} .

An element of \mathcal{B} is called a *Borel subset* of X , or a *Borel set*.