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The Ötzaler Valley and the Köfels Impact

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Work by Bond and Hempsell on a Sumerian astronomic observation shows that the Ötzaler Valley was the site of a major asteroid impact towards the end of the fourth millenium BC. The talk will review the site evidence for the impact in the Ötzaler Valley. The astronomical observation is very precise and enables the trajectory to determined to a very high accuracy, which in turn enables a precise reconstruction of the sequence of the impact. The asteroid first interacted with the ridge ending in Gamskogel, this was a grazing impact which shaped the ridge slightly but also caused the asteroid to explode. The expanding fireball travelled along the Ötzaler Valley impacting the west side at Köfels causing the landslide known as the Maurach Barrier. Because the impacting body was no longer a solid object a classic crater was not created, however a possible secondary impact crater 250 m in diameter can be found at Felderkogel opposite Gamskogel.