The year 1910 may be assumed as the beginning of Ewald's scientific career when he choose from one dozen topics offered to him by Arnold Sommerfeld the most difficult one: to derive optical double refraction in a rhomboe- 
dric space lattice of point scatterers. Ewald started 
his calculation, very unusually, by considering an inﬁ- 
finite lattice instead of following the fate of a wave 
incident upon it from outside. Somewhat irritated by his 
own unconventional calculation — which indeed resulted in 
double refraction and initiated self-consistent field 
methods— he consulted Max von Laue, who was well known 
for his profound knowledge in theoretical optics in Mu-
ic, early in 1912. To his astonishment, Laue seemed to 
be unaware of the concept of space lattices as ﬁnal 
constituents of crystals and asked about the hypotheti-
cal distances between the scattering dipoles assumed by 
Ewald. The answer —about 1/10 of the likewise hypotheti-
cal x-ray wavelength— obviously induced the concept of 
the diﬀracti on of x-rays in crystals which Laue reali-
zied shortly later, about Easter 1912, together with 
Friedrich and Knipping. 

Already in the following year Ewald contributed his 
concept of the “Ausbreitungskugel”, nowadays called 
Ewald sphere, to easily detect “strong” reﬂections; 
shortly later he started his series of papers on crystal 
optics with visible light and x-rays (which will be dis-
cussed by Prof. Kato); one of the most outstanding re-
sults of the calculations was the famous Pendellosung. 

From slight deviations of the positions of higher order 
Bragg reﬂections he derived a ﬁrst experimental indi-
cation on the validity of the dynamical theory; he clear-
ly adjoined kinematical theory to real (imperfect), dyna-
mical theory to perfect crystals. He wrote his book 
“Kristalle und Röntgenstrahlen” and an important Hand-
book Article, and published further contributions to 
theory and experiment together with Helmut Hönl and 
Mauritius Renninger at the Technische Hochschule Stutt-
gart. There he was Professor (1921) and Rector (1932). 
But as opposed to the NS regime he resigned from this 
position and ﬁnally left Germany in 1937. After the war 
special events saw him back in his country: to represent 
the IUCr at the celebration of Laue’s 80th birthday 
(Berlin 1959); to receive the Max Planck medal of the 
German Physical Society (Munich 1978); to commemo- 
rate Laue’s 100th birthday (Berlin 1979). Many times he visi-
ted Gerhard Bornmann and his co-workers in Berlin-Dahlem 
to discuss new aspects of his Dynamical Theory.
Have a thinkpad edge about 13 m old diagnostics tell me it failed on three tests and is in danger or imminent failure. = targeted self read test and smart short self test are two other one showed up when downloaded diagnostics from lenovo as well. What does it really mean? Find the lenovo diagnose and fix really unhelpful Thank you! Reply. Options. But i am not 100% sure. This happened to me once or twice but I don't use FS2Crew. Link to post. Share on other sites. Developer. Joshua Che. 1601. Posted January 3, 2015. Joshua Che. Privat Pilot - ME/IR. English. AIRCRAFT. Airbus A318/A319/A320/A321 (32 bit, FSX/ P3D V3) - Development halted. Pfd, nd, Ecams. Cabin Check. Language. English (USA) (Default). Deutsch (german). Theme. The Airbus A319 is a modification of the A320 with a reduced number of passenger seats. Therefore, the length of the A319 is shorter than the A320 by almost four meters. This is the main difference between these two Airbus SAS models. The Airbus A319 development program was officially launched in May 1992. Although research on the development of this model was conducted already in 1990. The first flight of the 319th took place on August 25, 1995. In March 1996, the liner received certification. The first buyer of the aircraft was the Swiss air carrier "Swissair". A319 Photos. A319s are powered RT-319 Topic Summary. RT 319. Overview. RT-319 was chartered to make the case for Advanced Work Packaging (AWP) as a CII Best Practice, to extend and validate the findings of RT-272 Advanced Work Packaging. AWP is a disciplined approach to project planning and execution to increase project performance and predictability. The primary objectives of RT-319 were to validate the performance success of the AWP execution model and thereby make the case for AWP becoming a standard (best) practice for the industry. Specifically, the team pursued the following two research goals: Evaluate the relationsh